DOCUMENT RESUME

ED 243 820 SP 024 182

TITLE	Aids for Health and Home Extension Volunteers. Appropriate Technologies for Development. Reprint R-3.
INSTITUTION	Peace Corps, Washington, DC. Information Collection and Exchange Div.
PUB DATE	Sep 81
NOTE	324p.
PUB TYPE	Guides - Non-Classroom Use (055)
EDRS PRICE	MF01/PC13 Plus Postage.
DESCRIPTORS	Childhood Needs; Community Education; Community Involvement; Community Role; *Developing Nations; *Disease Control; *Health Activities; *Health Education; *Hygiene; *Instructional Materials; Sanitation; Teacher Role
IDENTIFIERS	Peace Corps

ABSTRACT

This book contains various aids for Peace Corps home extension volunteers. Section I, "Culture Resource Material," contains four articles by Paul Benjamin: (1) "Values in American Culture"; (2) "The Cultural Context of Health Education"; (3) "Problems of Introducing Public Health Programs in 'Underdeveloped Areas'"; and (4) "The Role of Beliefs and Customs in Sanitation Programs." Section II, "'How To' Community Health Education," supplies five resources: (1) The Group Approach to Introducing New Ideas; (2) Community Organization Aimed at Encouraging Village People to Want to Use a Latrine; (3) The Case of the Missing Latrine; (4) Suggested Outline for Use by Countries in Discussing "Health Education of the Public"; and (5) Documentation of Community Data. The third section, "Sanitation Resource Material," contains: (1) Basic Health Sanitation--Community Improvements; (2) Drink Safe Water; (3) How to Wash Your Clothes; (4) Personal Cleanliness; (5) Wash Dishes Right; (6) Get Rid of Household Pests; (7) Dispose of Waste; (8) Storing Food at Home; (9) Prepare and Serve Safe Meals; and (10) Care for Your Baby. Topics of Section IV, "'How To' School Health Education," are: (1) Teachers Can Contribute to Child Health; (2) Opportunities for Correlating Health with Other Subject Areas; (3) The Classroom Teacher and Health Education; (4) Suggestions for Constructing a Teaching Unit in Health; (5) Teaching Learning Activities; (6) Draft Syllabus for Health Education for Ages 6-11; and (7) Health Education for the Tropical Mother in Feeding Her Young Child. (JMK)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

APPROPRIATE TECHNOLOGIES FOR DEVELOPMENT

SP

ED243820

Aids for Health and Home Extension Volunteers

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
L. Buller

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☑ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.

- Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

SP024182

Peace Corps
INFORMATION COLLECTION & EXCHANGE
REPRINT R-3

INFORMATION COLLECTION & EXCHANGE

Peace Corps' Information Collection & Exchange (ICE) was established so that the strategies and technologies developed by Peace Corps Volunteers, their co-workers, and their counterparts could be made available to the wide range of development organizations and individual workers who might find them useful. Training guides, curricula, lesson plans, project reports, manuals and other Peace Corps-generated materials developed in the field are collected and reviewed. Some are reprinted "as is"; others provide a source of field based information for the production of manuals or for research in particular program areas. Materials that you submit to the Information Collection & Exchange thus become part of the Peace Corps' larger contribution to development.

Information about ICE publications and services is available through:

Peace Corps
Information Collection & Exchange
Office of Programming & Training Coordination
806 Connecticut Avenue, N.W.
Washington, D.C. 20525
(202) 254-7386

Add your experience to the ICE Resource Center. Send materials that you've prepared so that we can share them with others working in the development field. Your technical insights serve as the basis for the generation of ICE manuals, reprints and resource packets, and also ensure that ICE is providing the most updated, innovative problem-solving techniques and information available to you and your fellow development workers.

Peace Corps

AIDS FOR HEALTH
AND HOME
EXTENSION VOLUNTEERS

Peace Corps
Information Collection and Exchange
Reprint R-3
September 1981

TABLE OF CONTENTS

I. Culture Resource Material

Values in American Culture 1
The Cultural Context of Health Education 13
Problems of Introducing Public Health Programs in "Underdeveloped Areas" 21
The Role of Beliefs and Customs in Sanitation Programs 27

II. "How To" Community Health Education

The Group Approach to Introducing New Ideas 32
Community Organization Aimed at Encouraging Village People to Want to Use a Latrine 41
The Case of the Missing Latrine 48
Suggested Outline For Use by Countries in Discussing "Health Education of the Public" 57
Documentation of Community Data 72

III. Sanitation Resource Material

Basic Health Sanitation - Community Improvements.... 76
Drink Safe Water 79
How to Wash Your Clothes 87
Personal Cleanliness 99
Wash Dishes Right 111
Get Rid of Household Pests 119
Dispose of Wastes 135
Storing Food At Home 147
Prepare and Serve Safe Meals 167
Care for Your Baby 191

IV. "How To" School Health Education

Teachers Can Contribute to Child Health 207
Opportunities for Correlating Health with Other Subject Areas 219
The Classroom Teacher and Health Education 225
Suggestions for Constructing a Teaching Unit in Health 232
Teaching Learning Activities 235
Draft Syllabus for Health Education for Ages 6-11... 264
Health Education of the Tropical Mother in Feeding Her Young Child 287

I. CULTURE RESOURCE MATERIAL

Values in American Culture
by Dr. Benjamin Paul 1

The Cultural Context of Health Education
by Dr. Benjamin Paul 13

Problems of Introducing Public Health Programs in
"Underdeveloped Areas" by Dr. Benjamin Paul........ 21

The Role of Beliefs and Customs in Sanitation
Programs by Dr. Benjamin Paul 27

Elmer J. Anderson
American Embassy, TCM
New Delhi, India

Harvard School of Public Health
Public Health 1a: Joint Seminar
September 26, 1952

VALUES IN AMERICAN CULTURE

Benjamin D. Paul

I. THE NATURE OF VALUES

Man does not look upon the world with untinted glasses, seeing all there is to see, drawing inferences from the facts as they present themselves to his senses, and responding in terms of the objective situation. He may think he does so, but he neither does nor can.

He cannot, because there are vastly too many things to observe, too many possible ways of interpreting his observations, too many alternative ways of responding. In all these operations, he must have signposts, he must be guided by principles of selection. Like other animals, he is furnished some cues by his genetic makeup; he is driven by hunger and by sexual urges and by other primary drives. But man's biological instincts are crude and generalized in comparison to other animals.

His survival depends on other types of cues as well, those supplied by the social milieu in which he lives: the precepts, assumptions, directives and goals that comprise the culture of his group. These are seldom recorded in a written charter; rather they are to be read in the things that are said and done by his fellowmen--in their manners and gestures, in the overtones and undertones of their conversation, in the things they gossip about, in the cases and examples they hold up to scorn or single out for admiration, in the countless ways society has devised for communicating the distilled experiences of the past to the new generation to provide a design for living and to maintain cultural continuity over time and generation.

This communicated social heritage supplies the signposts for selection. It tells one what to perceive and what to ignore, what to combine and what to distinguish, what to seek and what to avoid. It "makes sense" of the social and physical world around one. In a sense, a man's experience has been classified by his culture before he is born. He is told, in effect, that some things are "good" and others "bad", that some goals are desirable and others reprehensible. Objectively viewed, the cosmos and all its contents are morally neutral; nothing is good or bad per se; it simply *is*. But man clothes his cosmos in a moral cloak. He doesn't merely accept the cosmos; he *evaluates* it; or rather his culture evaluates it for him. It makes no difference whether the particular culture or the particular man is "primitive," "religious," or "scientific." In any case, he reads morality into existence; the only difference is the kind of morality involved (whether "rational" morality, mystic morality or whatever).

Values, then, are not only characteristic of all human groups but are necessary to the existence of human society; they are the things men live by and for. Values neither inhere in the universe nor in the biological makeup of man. Values are part of the culture of the group. There is more to culture than values but values comprise the heart of culture. Cultural differences spring from differences of historical influences (locale, resources, contacts with other groups, "accidents," and the like), not from inherently different capacities of separate races or strains of mankind. As cultures differ from society to society so do values differ. It is generally assumed in America that elders should not stand in the way of youth; in traditional China it is assumed that youth should not stand in the way of the aged. One emphasizes the value of youth, vigor and change; the other values age, wisdom and respect (the American slogan of "perpetual youth" in contrast to the maxim of "filial piety").

The deceptive thing about values is that they tend to lurk deep in the background of awareness. They are so taken for granted by those who share them that they are scarcely assumed to exist, like the air about us. Because values are seldom held up to the light of debate and analysis, they tend to persist and carry weight. They come into being through history and they change through time. But the transformation is largely an unconscious process, a thing that happens without intent or deliberate effort. Values run deep and they yield but slowly to planned efforts at change and "improvement." The implicit, unverbalized character of values is a kind of protective coloration; they tend to fade on exposure. Usually when men begin to examine their values it is when they are losing faith in their values. Hence values resist exposure to analysis. It is comforting to ask in America, "How can I make a profit?" It is discomforting (and mildly subversive) to ask, "Is it right to make a profit?"

II. SOME AMERICAN VALUES

American values are related to American history, to the heritages of the peoples who came to the New World, to the challenges and opportunities presented by the frontier, to the kind of social structure that grew up in response to immigration, mobility and innovation. Three features of the social structure should be especially noted:

(features of American social structure:)

(a) emphasis on the elementary family and lack of emphasis on wider kinship bonds,

(b) emphasis on associations of all kinds -- clubs, lodges, cliques and committees, and

(c) a differential social class structure (roughly upper, middle and lower) through which movement (by individual families and by succeeding generations) is fairly fluid.

Horizontal mobility (internal migration) is enormous, and this is consistent with social mobility (movement through the class structure). It is easier to change one's social status by moving away from the people who remember one as "just that grocer's son." Moreover, a change in social standing often requires a change in type of occupation and for this one must often travel a long distance.

Emphasis on the isolated family is consistent with both horizontal and social mobility. Attachment to kinsmen stands in the way of migration. It also stands in the way of rising in the social scale; it is easier to pull a small body uphill than to move a large body (an extended family). Maybe you can learn to speak with a flawless accent but how can you teach your parents or grandparents to slough off those telltale marks of foreign birth or recent migration?

Because values constitute background phenomena they are not easy to identify or classify. Moreover, values are not always consistent with one another, nor do they have the same force for all people in the society, nor do the same ones come into play on different occasions. It is hard to get agreement as to which values are dominant in a given society or even as to whether they exist at all. The following statements about values in American life are offered as stimulus for discussion, not as proven statements of fact. Owing to needs of brevity, the propositions are over simplified and insufficiently qualified. They do not exhaust the roster of American values by any means and the order of presentation is arbitrary. Some American values:

1. Dominance of middle class ideology. People may aspire to reach the upper class but it is popular to elevate middle class values to the forefront. Upper class members as well as lower class members tend to effect, or aspire to effect, middle class ways in mixed and public situations. Hence the values that follow apply especially to the middle class which sets the tone for America.

BEST COPY AVAILABLE

2. Romantic individualism. Each man is entitled to shape his own destiny. It is therefore right and honorable, not to say moral, to be competitive, to pit yourself against your fellows, to make your mark in the world and to win merit in the eyes of your fellow citizens. The "rugged individualism" of the past, originating with the exigencies of the frontier (and the "Protestant ethic") and glamorized in retrospect, is slowly yielding ground to the drive for social security and to governmental regulation, but it continues to grip the American imagination and deeply influences conceptions as to how things "should be." Increasingly the slogan of "individual initiative" is becoming a euphemism for the freedom of business from federal restraint, for the maintenance of private enterprise. American individualism may be regarded as the secularized form of American puritanism since, in Laski's words, "it leaves the individual face to face with his own fate, as the chief forms of puritanism left the individual face to face with his own God."

3. Romantic love. This is perhaps the gaudiest exhibit in the display of American values. People are "meant for each other" and fall happy victims to "love at first sight." Boldly ignored by this inspired ideal are the real but devalued impedimenta of family origin, social class, pressures of public opinion and a host of other practical considerations. In part, the folk concept of romantic love is a fantasied compensation for the intense practicality that governs Americans in other areas of their lives. In part it is another expression of romantic individualism; family background and tradition should not block free individual choice. In a country with many ethnic groups there will be many mixed marriages, although not as many as might be supposed; appeal to the principle of romantic love may soften the censure of ethnocentric neighbors and kinsmen. But the mixture which the concept of romantic love is most meant to legitimize is the mixture of social class, as in the case of the ambitious but poor young man who falls in love with the boss' daughter. Romantic love is thus an affirmation of the American goal of rising in the social scale. Among other peoples where the class lines or caste lines are more sharply drawn, there is little room for romantic love; or if it exists it is conveniently divorced from marriage.

4. Distrust of authority. Whether or not "power corrupts," the belief that it does is firm in American minds. There must be authorities but they should not stay in office too long. Americans will follow rules and leaders but they don't like to be told to follow or to obey. Individuals have their rights, and the authorities must not unduly infringe on these prerogatives. There are various forms of authority--that of tradition, that of the older generation, that of administrators. Americans have at least a mild suspicion of all these. Like all other people, Americans are much influenced by their social tradition but they

BEST COPY AVAILABLE

like to think that tradition is something to be rejected and improved upon. Advertisements about "grandma's pills" may appeal to some Americans, but more are intrigued by "the latest scientific discovery" for relief of thus and such. There is respect for parents and elders but much less than people from other cultures expect. In the days of the frontier each man was an authority unto himself; this is no longer the case, but the distrust of outside authority lingers on.

5. Progress. Many peoples look to the past for a guide to good behavior; the right thing is to carry on, to keep from slipping and to emulate as far as possible the fanciful "good old days." This is not a prominent theme in the American outlook. America "hitches its wagon to a star." Things will be better in the future; man is perfectible and perfection lies in the direction of greater rationality. Things not only change but they should change, according to the American value system. Change for the sake of change is a value unto itself. "Throw the rascals out" is a popular if hackneyed slogan, not only because authority is distrusted but because it is always time for a change; change is a good thing. The world will improve in time and it is a duty of Americans to do all they can to improve themselves and to improve things in general. Most characteristically "improvement" is of the physical environment rather than the social environment. Americans "conquer nature" and "harness" nature. American imagery has man working against nature, not with nature or in nature, as is the case of some other societies.

6. Optimism. Not only does hope lie in the future, but one should go around exuding hope and displaying a conviction that things are working out well. You may be discouraged and miserable, but the expected answer to the greeting, "How are things going?" or "How are you feeling?" is "Fine, never better," or "great." Tell others what a fine world this is and maybe they'll believe it and set about making it better; tell enough people that things are going well with you and maybe you'll really believe it yourself. "Nothing succeeds like success"; claim success and you may get to be successful. Don't grumble, don't be a "drip" or a "wet blanket," because nobody loves a complainer." "Keep your chin up." Who but Americans would think of posting signs in public places with just the injunction "SMILE"? It should be noted that the American trait of beaming confidence is quite opposite to that of many peoples who regard it an affront to the fates and a violation of taste to "talk things up." Humility is not conspicuous as a general American value, yet one should not make empty boasts; one should talk big but also act big. "Effort and optimism" is Kluckhohn's felicitious phrase for a typical syndrome of the American value system.

7. Activism. According to American standards, people should be on the move, should be "up and doing"--"let's get on with the show." If things are difficult or dangerous or ambiguous, individuals can choose to do nothing, waiting for matters to clear up; or they can choose to meditate and think about the problem. Neither of these is the typical American response. In the face of uncertainty the American feels impelled to "do something about it." He is not especially impulsive or capricious, but he believes in being active. In war he is better at offense than defense. Laski has called action the essence of the American spirit. The American is a practical man. He seeks short-cuts and efficiency; he is impatient with delay and suspicious of too much "theory". He likes sports, partly because they are such a satisfying expression of activism. Activism means two things: (a) doing things for the sake of doing things (i.e., "doing" is a value); and (b) getting things done. The latter is the same as "achievement," a big word in the American vocabulary. There is no need to rehearse the material accomplishments brought about by the drive to achieve. But, like most other values, it has its limiting features. One perceptive administrator in the American Indian Service observed that only 10% of the administration's problems came from the Indians; 90% of the trouble was created by the values of the administrators themselves. Every few years with a shift of personnel, the new director feels impelled to "make a record," to achieve something; so he introduces changes. He must show some change over his predecessors. This may fit his own value needs and may even earn him a promotion, but it makes for a disconcerting lack of continuity--and confusion in the minds of the people being administered. It would be surprising if this didn't also apply to some health programs.

8. Success. Not everybody is successful but in American thinking everyone should try to be a success. Success is conceived in quite material terms; money and the things that money can buy are the criteria of success. Not to succeed is somehow a stigma of inadequacy, something nearly shameful. Men who balk at entering the arena of competition to pursue success are not held up as heroes in American society. Those who sidestep the more competitive paths of life may incur fewer ulcers but they also earn fewer plaudits. The status of the doctor in private competitive practice is a notch above that of the doctor on the public payroll. Americans are strong on education, partly because it equips one to compete for success; technical education is especially to be desired. Success enables one to buy the perquisites of higher status--two cars, a home in the "right" suburb, membership in the right club, etc.--and hence success is synonymous with upward mobility in the social structure. But being a value in itself, success is also a thorn in the side of those sensitive souls who are not temperamentally disposed to be competitive; the burden is on them to show that they are as worthy as their more "ambitious" compatriots--in America, that is. And incidentally, where but in America is it virtuous to be "aggressive" and "ambitious"?

BEST COPY AVAILABLE

9. Humor. Men in America mix freely with others they barely know. There are little formulas for what to say when people hardly know each other; in America one of these formulas is the joke, the "wise crack," the "snappy comeback." When boy meets girl in Hollywood they engage in sprightly "smart talk." The flip quip and the humorous gag are as American as blueberry pie. Media for laughter are widespread. Americans lack polish and finesse in social relations, as judged by continental standards; for gentility and sensitivity they substitute the light and snappy touch as expressed in various forms of humor.

10. Conformity. Despite their competitiveness and individualism, and despite their mistrust of authority, Americans are singularly conforming. They are eager to "keep up with the Joneses"; to do the things that make them liked and accepted. They are susceptible to fashions and styles and the products of mass production. Because they are always altering their status, they are never quite sure of themselves. They are raised in one social circle and, if successful, shift to new and unfamiliar circles. The safest way to allay uneasiness is to conform externally. It has been said that Americans have individualism without individuality. It has also been observed that while the recurrent concern of psychiatric patients in Europe is fear of being too much like others, the American patient is typically worried about not being like other people. People have a right to be different but within circumscribed limits. An American can choose his God, but he is not free to be godless and still remain above censure. He can pick his political party but he should not be a radical. If Americans are personally insecure, despite their optimism and their humor and their social mobility--or because of these--they can gain some comfort from the fact that their neighbors are in the same boat,--or better, the same club. For Americans are a nation of "joiners". Perhaps it is because they do not really feel sure in their own minds that they "belong," perhaps there are better reasons, but it is a fact that Americans belong to many associations. The type of lodge or club depends on one's social class (and interest group).

11. Health and cleanliness. Cleanliness is an American value that sometimes reaches compulsive proportions. Americans have taken a vigorous stand against "filth" long before knowledge of germs gave a rational basis for this aversion. Physicians of the 19th century who ridiculed the notion of contagion saw the source of dread diseases in emanations from decaying vegetable matter. Americans are still singularly sensitive to "bad odors" as evidenced by the market they provide for patented deodorants and their passion for showers. Likewise, the concept of positive health comes close to being an American value. Given the accent on youth and activism, on cleanliness and on a disposition to improve on nature, Americans are minded to "do something" about keeping healthy. It should follow that public health programs will have more immediate success in America (and some European countries where cleanliness is also a value in itself) than in other areas where cultural values differ sharply from those we take for granted in the United States.

BEST COPY AVAILABLE

III. PUBLIC HEALTH WORK IN RELATION TO VALUES

A. Recognizing others' values

It is important to recognize the values of the community in which one is working, for at least three reasons: gaining acceptance, program planning and program implementation.

1. Acceptance. Public health workers, like others who try to serve the community, must be acceptable to the people they serve in order to prove effective. The easiest way to gain acceptance is to convince the people that you accept them, to show them that you understand and respect their ways and the things they hold dear. This does not mean that you must unreservedly accept all the values you encounter. Rather you should accept the fact that the people hold certain things to be "true" and valuable, that they not only have a right to their sentiments but need them to retain a certain measure of psychological and social stability. Values deemed detrimental by the health worker are seldom exorcised out of existence by condemnation. Women will not be won over to the wisdom of limiting the number of children by being told that they should not breed like animals.

2. Planning. Health programs are planned in terms of community needs. But "need" is a slippery term; it covers both objective and subjective needs. What may appear to the outsider as a pressing need may not be felt as a great need by men with different problems and values. Or the converse may be the case. An assessment of the values of the community will provide some basis for scheduling health work priorities. Items likely to be most welcomed will rise on the list, while items likely to arouse resistance or indifference will go further down (even though they may appear critical to the health worker).

3. Implementation. There are ways and ways of getting something done. The way that works best is usually the one that makes most sense to the particular public in terms of their system of values. Certain Hindus will accept purgatives in the form of castor oil but will reject it in the form of epsom salts, owing to rules and values regulating oral intake. During a cholera plague Chinese villagers resorted to sanitary measures which reduced the danger of contamination, but in their minds they were cleaning up the area for the gods, not for themselves. Environmental control, as we understand it, was much less valued than spiritual cleanliness. By the standards of Occidental medicine they adopted a relevant thing for an irrelevant reason. By good fortune or good planning, the potential barrier of diverging values can often be converted into a bridge for effective health improvement.

BEST COPY AVAILABLE

B. Recognizing own values

For the health worker it is helpful not only to recognize others' values but also his own values or those of his cultural group. Such insight may minimize the tendency to impose standards which are consistent with the values of the worker but which are not objectively warranted in the given situation.

In parts of Latin America where punctuality as a value is subordinated to the greater value of politeness (e.g., saying "yes" to be gracious rather than to seal a time commitment), Americans in clinics or health centers, reversing the order of importance of these two values in accordance with American culture, have needlessly created trouble and exasperation by insisting on an appointment schedule that is unrealistic in terms of the cultural environment.

Westerners in charge of Japanese hospitals ran themselves ragged trying to impose a degree of cleanliness and uniformity consistent with Occidental values but not with Japanese. Relatives of the patient insisted, against regulations, to bring in items of food and clothing. This was "wrong" in the eyes of the foreign administration even though the recovery rate was apparently unaffected by the failure of the Japanese to abide by American values.

IV. GROUP DIFFERENCES IN VALUE SYSTEMS

Beyond the values that distinguish one nation or total cultural group from another nation or cultural group, are the value differences within a nation, those values characteristic of separate interest groups, separate social strata, separate regions. Failure to discern these differences can impede a health program.

1. Regions. Consider the case of regionalism in the United States. Different values are associated with food and eating in the Southeast and in the North. In the North, unlike the South, there is a moralistic attitude toward food; certain foods are "good for you" even though they may not be enjoyable. Margaret Mead has pointed out that poor results were obtained when the task of changing the food habits of the South was entrusted to nutritionists born and raised in the North, people who possessed a high degree of northern puritanism, a desire to make people exercise their wills and discipline themselves. She writes: "Whenever new practices of health or education are to be introduced, discrepancies between the character (read "values") of the executants of the change and the character (values) of those whose living habits are to be altered must be allowed for if they are not to defeat the program."

2. Social classes. Differences in social class are equally significant. Professional people, including health specialists, tend to come from the middle class, not the lower. When they work with lower class people, they tend to tincture their disinterested services with moral judgements that are peculiarly middle-class. Take the case of school teachers (middle class). How does it happen that their middle-class students make better records than do their lower-class students? Is it a matter of inherent difference in intelligence or difference in values?

3. Professions. Take the difference between the applied and the academic professions. Both place a value on gaining knowledge and on doing things, but not in the same order. To the academician, the higher value is "knowing." Knowledge for the sake of knowledge is (to him) a self-evident value. He may have to "do things" in order to gain knowledge--field trips, experiments, etc.--and he may justify his quest for knowledge (if driven to do so) by saying that it may eventually prove to have practical value, but social action and social improvement are not in the forefront of his concern. The reverse holds true for the engineer and the doctor and the rest of the applied professions. These people have a great respect for knowledge and research, to be sure, but mainly because knowledge is needed to "do things," to build bridges or eradicate diseases. The "pure" scientist wants to act in order to know, the applied scientist wants to know in order to act. The first inclines to ask, "How do you know it?" The second asks, "What good is it?" The values of the applied professional are more in line with the dominant American value system with its accent on action and practicality. In America the academician, the "professor," is respected but also distrusted; he may turn out to be a wild-eyed visionary and in any case he is too "theoretical"; there is something not quite virile about him. It is perhaps no accident that America is a nation of mechanical invention, of the practical application of knowledge, while Europe (where values differ) continues to lead in the production of basic scientific discoveries (the results of "pure" research). In any event, the difference in implicit values held by academicians and by action personnel, is one of the reasons impeding collaboration and understanding between the two groups.

V. REFERENCES ON AMERICAN VALUES:

The following three references are concise, professionally competent, and generally available and are therefore singled out for those who cannot do extensive reading on the complex topic of values in American life. Although particular attention is drawn to specific chapters, the other sections in these three volumes are also pertinent and can be read with profit.

Kluckhohn, Clyde	"An Anthropologist Looks at the United States," Chapter 9 in: Mirror for Man: The Relation of Anthropology to Modern Life. New York: McGraw-Hill, 1949.
Lynd, Robert S.	"The Pattern of American Culture," Chapter 3 in: Knowledge for What: The Place of Social Science in American Culture. Princeton: Princeton University Press, 1946.
Williams, Robin	"Orientations in American Society," Chapter 11 in: American Society; A Sociological Interpretation New York: Knopf, 1951.

Other Selected References on American Values

Aberle, David F.	"Shared Values in Complex Societies." American Sociological Review, 15:495-502. 1950.
Arnold, Thurman	The Folklore of Capitalism. New Haven: Yale University Press, 1937.
Benedict, Ruth	"The Family--Genus Americanum" in Anshen (ed.), The Family: Its Function and Destiny. New York: Harpers, 1949.
Brogan, Dennis W.	The American Character. New York: Knopf, 1944.
De Tocqueville, Alexis	Democracy in America. Oxford University Press, abridged edition, 1946.
Gorer, Geoffrey	The American People. New York: W. W. Norton, 1948.
Kluckhohn, Florence	"Dominant and Substitute Profiles of Cultural Orientation: Their Significance for the Analysis of Social Stratification." Social Forces, 28:376-393. 1950.

Laski, Harold J. *The American Democracy*. New York: Vikings, 1948. (See especially, Chapter II, "The Spirit of America".)

Lynd, R. S. and Lynd, H. M. *Middletown in Transition*. New York: Harcourt, Brace and Son, 1937. (See especially Chapter XII, "The Middletown Spirit.")

Mead, Margaret *And Keep Your Powder Dry*. New York: William Morrow, 1942.

Myrdal, G. *An American Dilemma*. New York: Harpers, 1944.

Sirjamaki, J. "Culture Configurations in the American Family". *American Journal of Sociology*, LIII, 6:464-470, May, 1948.

Warner, W. L. et al *Social Class in America*. Chicago: Chicago Science Research Associates. 1949.

Reprinted from SYMPOSIUM PROCEEDINGS 1953. School of Social Work, University of Pittsburgh.

THE CULTURAL CONTEXT OF HEALTH EDUCATION.

Benjamin D. Paul, Ph.D.*

Essentially, I shall speak about culture and its relationship to conceptions of illness and to health education. To help clarify what I mean by the term culture, let me compare it with the term society. Both men and ants are social animals; they live in a society and are dependent on it for survival. The two types of society have much in common.

If one examines societies of social insects, he realizes that they, too, have developed occupational specialization, agriculture, animal domestication, warfare and slavery, child-care services, and sanitary corps to rid the community of waste. These parallels with human society are scarcely surprising when one considers that for any species, group living not only has its advantages but also makes necessary certain agreements and arrangements in order to insure cooperation and smooth functioning. Unlike humans, the social insects keep their complex organization going mainly by means of inherited impulses. They are born with an intricate set of built-in triggers that go off when tripped by the right environmental stimuli. Should all the members of the insect society perish, except for a single fertilized female, this lone survivor could re-create the entire social organization in all its original complexity within the space of a few short generations.

Nothing like this could happen with humans. If all mankind were suddenly annihilated except for a contemporary Adam and Eve, whole in body and brain but without the benefit of socially-transmitted learning, these two human animals would be quite incapable of regenerating a society remotely resembling any now known to us. Even if they could survive and leave progeny, it would take tedious thousands of human generations to rediscover the ways and wisdom needed to run any human society now in existence.

This is because humans, unlike insects, regulate their lives and their social relations largely by means of cultural rather than instinctual directives. Speaking English is part of our own culture; it is transmitted from one generation to the next, not by the germ plasm but by imitation, example, and instruction. It is built into our culture rather than our chromosomes. Man has physiological drives, but these are modified and interpreted according to his particular culture. Man is born with vocal cords but without directions for using them. For these directions he must depend upon the culture of the group into which he happens to be born, the same culture that defines his goals, the skills needed to attain them, his ways of behaving and thinking, and the meaning of life's events.

Culture is the product of group living; it is the distillate of the experiences of past generations transmitted through conscious and

---

*Lecturer on Social Anthropology at Harvard School of Public Health and in the Department of Social Relations, Harvard University.

BEST COPY AVAILABLE

unconscious learning. It is also a design for living, a plan for regulating personal and group existence. Because man's existence is predicated on culture or the way of life charactistic of his society, his behavior cannot adequately be understood without reference to the cultural setting. Failing to realize this, some people speak glibly about many culturally derived traits as though they spring from the bloodstream or "race" or the climate.

Two of the many aspects of culture are particularly pertinent for health educators. In the first place, cultures differ. Any society or subsociety slowly evolves a distinctive culture. The acceptance, rejection, or selection of all new ideas depends on how the new notions fit the particular shape of the existing culture. In the second place, all cultures are plastic, ever changing even while appearing to resist change. People are amenable to education and to changing their way of life, if changes are not urged upon them too precipitously and do not run contrary to the direction their culture is moving.

Anthropologists have generally studied the cultures of so-called primitive or folk societies rather than the subcultures in which most of you live and work; only recently have some anthropologists turned their attention to the latter. Nevertheless, their traditional preoccupation with foreign cultures has provided a comparative baseline and an angle of vision that permits them to see things in our own culture that are easily overlooked because they are too close. An observer viewing the ways of another culture is occasionally jolted out of some of his assumptions about human nature, assumptions derived from his own culture and so taken for granted that he is unaware of them or regards them as universal, right, and self-evident. Let me cite an example.

My wife and I were making a study of a community of Maya-speaking Indians living on the shore of Lake Atitlan in the highlands of Guatemala. Once we were summoned to a house where a woman was gasping for breath and appeared to be dying of suffocation. The room was filled with relatives and friends who asked us to do something to relieve her suffering. The chamber was so densely crowded with noisy well-wishers and cigarette smoke that we ourselves began to feel a slight sense of suffocation. Among other things, we suggested that most of the people leave the room and let the patient catch a breath of fresh air. This advice was ignored. Only later, long after she had recovered and we had overcome our ignorance of the local culture, did we realize why.

Just prior to the appearance of her symptoms, this woman had engaged in an unpleasant argument over intimacies between her sister and her husband. She was full of "angry blood," which had engorged her heart to the point where it pressed dangerously against her windpipe as though seeking to issue from her mouth. These signs were familiar and standardized; the syndrome had a name meaning "rage." The villagers believed that such an attack could be fatal.

When a person is very ill, it is the duty of relatives to remain in the same room. Everyone in that village knows that forces of evil lurk in the vicinity of a gravely sick individual, biding their time until they can snatch the wavering human soul and thus cause death. They do not dare pilfer the soul of a sound man but stand ready to pounce on one weakened by illness. However, they hesitate to approach healthy people, and it is therefore a duty of kinsmen to maintain constant vigil over an ailing relative. My wife and I had assumed that the gasping woman could breathe more easily if others left the room, but how could she if their departure, in their own eyes and in hers, was a token of abandonment, of throwing her to the werewolves?

Technically, we may have been right in assuming that dispersion of the crowd would refresh the atmosphere. But we failed to take account of the cultural climate in the Guatemalan village, of the *meaning* attached by the villagers to attendance and privacy and the mechanics of losing one's life. It is not strange that our advice was politely ignored. It is quite possible that our counsel, if carried out, would have made matters worse. Without knowing it, we were in effect surrendering the woman to death.

Until then we had assumed, in common with others in our culture, that quiet, rest, and solitude were soothing for sick people. This assumption is valid for some sick people, but others, like those in the Guatemalan village, attach quite a different meaning to quiet and solitude. The lesson should be clear: the "same" situation can have different meanings in two societies; hence, in effect, the situations are different. Advice based on the assumptions of one's own culture, however well intended, can go unheeded or be "misunderstood" by people who operate according to another cultural frame of reference.

One might argue that the sickroom behavior of these villagers is founded upon ignorance and superstitious belief in non-existent were-animals, and that proper education would erase their foolish fears and alter their behavior. Such a stand would not be wholly incorrect; supernatural dangers, while real enough to those who believe in them, are not real in our sense of the word. The element of non-rational thinking, however, is only one part of the picture. Another part is the effect of such beliefs upon behavior. As we shall see, they can justify a manner of behaving which gives the patient reassurance. Behind the explicit reasons given by the villagers, one senses an implicit recognition of a sound phychological principle — that a physical crisis is also a social crisis and that showing social solidarity by congregating around the sick bed is good therapy for a social crisis.

The woman was vexed about sexual irregularities. Women in our society would be similarly jealous. Can we say that this behavior is "natural," that it is free of cultural influence? Probably not; in some societies, a man is not only permitted, but expected, to be intimate with his wife's sister; such behavior would not furnish the basis for wounded pride and acrimonious dispute. It happens that our culture and that of the Guatemalan village, in contrast to some others, define relations with a sister-in-law as improper behavior and proper cause for complaint.

BEST COPY AVAILABLE

But the right to complain need not imply the right to argue. An open show of anger is more severely discouraged in Indian areas of Guatemala than in our own society. One should contain his temper even if sorely tried. A wronged person might properly bring suit in civil court and resort to other forms of redress, but he should not allow himself to lose control. By and large, this cultural damper on emotional release is quite effective; the culture provides practical face-saving devices, as well as stereotyped fantasies by which excessive hostility can be harmlessly discharged.

Despite these safeguards, some interpersonal tensions result in explosive arguments. But because arguing is considered wrong, regardless of provocation, an open quarrel is sometimes followed by a fit of suffocation, a form of self-directed violence that brings on a scene and a rush of attention.

The Guatemalan example shows how insistently culture shapes peoples' lives, influences their behavior and beliefs, governs their interpretation of illness. All living beings exist in a natural environment and interact with it, but humans, in addition, interpose a cultural layer between themselves and their environment. They do not react to their world directly; they react to the cultural definitions of that world. For example, the American administration of a large foreign enterprise provided cafeteria service for their undernourished Arab workers. They were careful to offer a choice of foods that would satisfy the tastes of their employees. The offer of free and desirable food was not accepted, however, since standing in line was perceived as distasteful and humiliating. This was not merely because the workers were unfamiliar with an accepted American practice of waiting in line. They were quite familiar with it, but only as something appropriate to disadvantaged and disesteemed Arabic beggers.

Here again the "same" situation was differently defined. Just as we failed to realize, on arriving in the Guatemalan village, that quiet and solitude are subject to varying cultural definitions, so did the American adminstrators at first fail to realize that the meaning of standing in line is not inherent in the objective situation but in the subjective group definition of that situation.

To work effectively, a health team should be familiar with the health and illness profile of the community, its facilities and resources, and its organizational structure. These requirements are familiar to you, and I shall say little more about them. In addition to the objective health picture, however, the team should also understand the subjective picture. It is this aspect of a community that is usually least appreciated, and accordingly I shall concentrate my remarks upon it. By the subjective picture, I refer to the outlook of a given society or stratum upon its health and ailments. What does disease mean to people? How do they define illness? What disorders do they recognize and how do they classify them? What are their notions of prevention and of etiology? What is their knowledge of curing techniques? How is illness tied to other aspects of their culture?

APPROACH TO TUBERCULOSIS PROBLEMS

Perhaps the laboratory researcher investigating disease and cure can afford to ignore the concepts of disease by the common man in our own or other societies. But the health educators may ignore popular disease concepts only at the risk of failing in their efforts, for these concepts can be as influential as they are elusive. Regardless of how they measure up on the yardstick of science, popular explanations of illness, like other aspects of culture, serve to sift out those new ideas that are acceptable from those that are not and to cast their own interpretation on any new set of conceptions and procedures. All cultures furnish standardized explanations of such recurrent events as illness and death.

These conventionalized notions may be written down and highly systematized or they may simply be embodied in the folklore and the folkways of the people. But they are there. Why should this be so? What ends are served by popular disease concepts? It may help us in health education if we realize that these concepts function in more ways than appear on the surface. Among other functions, they provide psychological control, social control, and a measure of technical control. I shall review these in order.

By psychological control, I mean that popular disease interpretations provide security in the face of uncertainty. The future is a great unknown; it may bring good luck or bad, good health or sickness. To face an undefined future is disturbing. Men, therefore, repeatedly seek to influence the course of coming events by means of ritual or prayer or propitiation or coercion, depending on their particular culture. Or they may take steps merely to foretell the future, not to manipulate it. But even this is reassuring; it is a way of dispelling ambiguity; even bad news can be preferable to boundless uncertainty.

An affliction becomes defined when it can be named and fitted into a scheme of classification. Thus defined, it is somehow less awful and more manageable. The explanations and the therapies they support may appear illusory from our point of view. We may criticize them as offering "false security." But it must be admitted that false security is sometimes preferable to genuine insecurity.

People are seldom called upon to work out independent ways of influencing their destiny or divining their fate, of inventing labels for their ailments and devising a course of treatment. Their culture teaches them how to handle a given sickness, whom to call, what to hope for, and what to believe. Culture provides a plan, often complete with loopholes to explain away failure without destroying faith, thus sustaining individual hope and effort. Adversity and the fear of adversity can arouse destructive anxiety. Popular disease theory helps to hold this anxiety within tolerable limits by appearing to predict, explain, or control the capricious. This is the sense in which cultural formulas for explaining disease offer psychological control.

They also exert social control. Culture gives meaning and direction to human life and supplies a plan for co-ordinating group action. It also provides controls that discourage undue deviation from group norms.

Essentially, these controls amount to a system of rewards for the deserving and punishments for the deviant. Punishments may range from informal gossip and ridicule to formalized penal sanctions. Since it is a form of misfortune, sickness is often construed as supernatural punishment for wrongdoing. A given instance of illness may be attributed to an act of moral transgression committed by the patient or a kinsman, or to the curse of a malevolent enemy. In any case, the malady is seen not merely as a natural circumstance, but as a mark of moral lapse.

Thus, the victim must find a way to punish the wrongdoer, to hurl the evil back upon the perpetrator; if he himself has been at fault, he must make proper amends by confession or atonement or by suffering pain and guilt. This conception of disease also has a preventive implication. From the standpoint of the individual, one averts illness by adhering to moral rules; good behavior begets good health. From the standpoint of the society, interpreting sickness as the price of sin serves to regulate individual behavior. In this way popular disease theory serves as a mode of social control.

A third function of systems of disease explanation, that of facilitation technical control, is readily apparent to our own technically oriented perception. Rational disease theory is, of course, essential to scientific control. It would be a mistake to dismiss folk disease theory simply as error born of ignorance, for many efficacious materials and practices are embedded in the matrix of folk medicine. It would be equally erroneous to evaluate folk medicine according to the proportion of scientifically valid techniques that it contains, thus overlooking its implicit psychological wisdom and its role in sanctioning approved social behavior. But besides providing psychological, social, and technical control, folk medicine performs still other functions. One of these is an integrative function.

A culture is not merely an inventory of shared customs and conceptions; it is also an organized whole. While the parts of culture are not as finely meshed as the parts of an electric motor, its separate aspects and institutions always exhibit some degree of mutual consistency. Each part bears the imprint of the basic values and premises of the cultural ensemble and reflects its style and temper. Medical precepts are no exception. In their form and phrasing, they are consonant with other aspects of the culture; this quality of consistency enables the culture to remain integrated. Studies have shown, for instance, that particular disease theories tend to accompany particular patterns of child training. Thus, the practice of curbing aggressive impulses of children goes along with the cultural tendency to attribute illness to hostile thoughts by the patient or to malice and sorcery by a rival. Furthermore, given patterns of disease explanation are often geared to given types of standardized body images and to corresponding conceptions of fate and religion.

I have drawn attention to four of the functions that popular medical theory can perform, an integrative function and three kinds of controlling functions. When a health educator attempts to alter existing habits or implant new ones, he is acting as an agent of culture change, whether he recognizes it or not. The penetrating power of new material he offers will depend partly on his channels or techniques of communication, upon his own status in the community, and partly upon the mediating individuals he selects. But it depends also on the fit between the new idea and established idea systems and how it impinges on the more hidden functions of disease theory.

It may be thought that popular disease theory performs these functions only in exotic or unsophisticated communities. Although it may not always be apparent, the particular kinds of medical formulations that seem right to us may not seem right to members of another society or social class. We, too, judge these formulations in terms of our own cultural values and assumptions. It has been observed that in some societies people will accept scientific ideas if they are cloaked in magic, whereas we often accept magic if it parades in the guise of science. In short, what I have called the integrative function of folk medicine prevails among us, too. And who can gainsay the need for psychological reassurance among ourselves and our neighbors? Do we not sense relief when disquieting vagueness is dispelled by a semblance of order and management, as when a physician defines a case of skin inflammation as "dermatitis"? To name something often helps explain it and reduces its power to disturb.

As for social control, do we not hear people who experience repeated illness or bad luck remark half in jest and half in puzzlement, "I guess I don't live right."? And no matter how rational we may be as to the mechanical causes of an accident or the infectious origin of a dread disease, we are still often left with some basically unanswered questions. Of all people, why did it happen to *me?* Of all times, why did it happen *now?*

If one's religion or psychological makeup prompts answers in terms of fate or moral retribution, this can offer considerable comfort. Such conviction implies a compassionate cosmos, a force that rewards and punishes and, like a parent, therefore cares. It implies the existence of a purpose in the larger scheme of things. If one's troubles are not quickly relieved or immediately understood, there is solace in believing that eventual relief is inevitable or that the suffering fulfills some cosmic purpose. To interpret an accident or illness as punishment can bring psychological satisfaction to one who smarts under the sting of self-accusation.

Programs of health education at home and abroad in general have ministered to only one of the functions performed by folk concepts of medicine, that of technical control. This approach has frequently been effective. But it is tempting to suppose that at least some cases of indifferent public reception can be traced to the fact that the other functions of popular disease theory were too little heeded in program planning or execution.

In different words, "resistance" can be better understood and perhaps more intelligently overcome if one takes into account that new health concepts are seldom directed at mental vacuums. More often they must compete with popular counterparts in the minds and culture of the people. These popularly held ideas of health and illness may not provide as much technical mastery over sickness as the newer notions, but they are trusted because they bear the stamp of familiarity. Such conceptions usually provide a psychological defense against uncertainty and a degree of social control; they are attuned to the general cultural premises of the people. The magnitude of an iceberg cannot be calculated correctly without considering the mass that floats unseen below the surface. Similarly, the full dimensions of the problem of health education can be gauged only by taking into account the hidden functions of illness ideology.

In sum, the value of the concept of culture for health education is this: if properly appreciated, it directs attention to easily overlooked features and functions that affect the outcome of educational efforts. Each society has its distinctive culture. Within our own complex society and its general culture pattern, each social class, each ethnic enclave, each geographic region, each special interest group tends to have its own special subculture.

PROBLEMS OF INTRODUCING PUBLIC HEALTH PROGRAMS IN "UNDERDEVELOPED" AREAS*

Benjamin D. Paul, Harvard School of Public Health

The profession of public health prides itself on being in the forefront of the campaign to increase the productivity of peoples and nations and to elevate their standard of living. Sick and undernourished people cannot work efficiently; health improvement is often a pre-condition for economic improvement. Furthermore, good health and survival are generally valued regardless of cultural and governmental differences. Of all forms of technical aid, health programs, if soundly conceived, are most likely to be welcomed and least likely to be feared as forms of political or economic interference.

And yet, programs of health improvement can proceed only so far without more general development in agriculture, transportation, education, public administration, etc. Moreover, mortality reduction, if not accompanied by commensurate economic advances, will only increase pressure on the food supply. Since health work and general community development are so intertwined, it is incumbent on health personnel to understand, and coordinate their actions with, other types of improvement programs, and to become familiar with the general processes of national and community transformation. This is by no means an easy task when one considers the usual difficulties experienced in trying to coordinate multiple programs in the health field alone.

Despite the generally noncontroversial nature of public health aid, it should be recognized that new modes of behavior, whether they concern health or anything else, are seldom accepted simply on their intrinsic merits. The success or failure of a health improvement program is largely governed by the way in which it fits the modes of thought and action of the recipient population. Thus, public health workers, like other agents of change, need to know the nature of sociocultural patterns, what purposes they serve, how they persist, and how they change. In their planning and in their approach, health experts should be particularly aware of five kinds of gaps which appear recurrently in the path of program fulfillment: the cultural gap, the status gap, the aspiration gap, the urbanization gap, and the research gap.

---

* Presented at the TENTH PACIFIC SCIENCE CONGRESS of the Pacific Science Association, held at the University of Hawaii, Honolulu, Hawaii, U.S.A., 21 August to 6 September, 1961, and sponsored by the National Academy of Sciences, Bernice Pauahi Bishop Museum, and the University of Hawaii.

The Cultural Gap. The reference here is to the difference between the culture or subculture of the beneficiary population and that of the assisting group (i.e., the health workers and the culture they represent). Culture is more than a collection of customs, it is a *system* of interrelated skills, ideas, and relationships, so that a change in one part of the culture has repercussions in other parts of the system. What seems obvious, feasible, and desirable to health personnel may seem quite otherwise to the people they serve. The cultural gap complicates the problem of simple communication (Caudill, 1961, Japanese example of *ofukuro*). It also impedes the acceptance of new health services. Because people of other societies often find the new modes incompatible with their own notions of illness and curing, it is generally useful, not to mention respectful, to understand their beliefs and practices before trying to change them.

Anthropological field work conducted in the Pacific and elsewhere yields several generalizations about folk medicine. One is that the local disease taxonomy, while seldom explicitly codified and varying greatly from culture to culture, is as orderly and systematic as it is complex. This has been admirably documented by Frake (1961) for a pagan group in the southern Philippines. Another is that the local ailments tend to be grouped into two great classes: those that respond only to folk methods of treatment and those amenable to scientific medication. As one student sees it (Gould, 1959, using data from North India), village medicine mainly serves such chronic non-incapacitating dysfunctions as arthritis, while modern medicine is seen to serve critical incapacitating dysfunctions such as acute appendicitis. Practitioners who take the pains to demonstrate awareness of the native system are likely to gain greater acceptance of their own (Newell, 1957, on Maori). Still another proposition is that local concepts of etiology and curing implicitly serve purposes other than maintaining physical integrity (Paul, 1958, on the multiple functions of sickness beliefs and customs); the most characteristic latent purpose is one of social control, i.e., to support the integrity of the particular moral and social system (Rubel, 1960, on Mexican-Americans). Diseases interpreted as punishment for violation of social norms are held to fall outside the ken or competence of the technically trained physician.

Cultures are layered. What we call customs rest on top and are most apparent. Deepest and least apparent are the values that give meaning and direction to life. While sound health is everywhere sought, the quest for health may or may not rate high in the hierarchy of a society's value system, depending on the particular culture (high in U.S. middle class, among Navaho, etc.). Cleanliness is another cultural value of variable strength (high in Japan, U.S. middle class, etc.). So is effort and achievement. So is the complex of voluntarism, self-help and citizen participation which Americans call democracy and which they often try to export with varying success via health promotion and other improvement programs (Japanese report, 1960, of health education survey in rural area).

Sometimes non-health values can be enlisted to implement new health measures (e.g., Textor *et al*, 1958, on hitching privy construction program to Buddhist merit-earning motivation in a Thai village). Whether this type of expediency is warranted or not is a question of policy and a matter for debate. A vivid and perplexing example of divergent cultural values is found in a recent criticism by a British advisor of the Fiji way of life (N. Y. Times clipping).

There is need in Pacific areas as elsewhere to intensify the public health approach with its emphasis on prevention rather than on cure alone and its application to populations rather than to individual clients alone. Preventive measures tend to be of two kinds, those that can be done for the people without enlisting their active involvement, e.g., malaria control and those which require the participation of the populace. The latter kind, which depends on engaging human motivation, obviously requires patience and effort to implement. But even the former type of health program, which asks only for passive acceptance, can arouse resistance, as many supervisors of DDT campaigns can ruefully attest, since the people affected may bring to the situation culturally conditioned expectations and interpretations at variance with those of the health personnel (Wellin on Peru in Paul, 1955, and news item from North Borneo).

While programs of prevention may be strongly indicated from the standpoint of long-run efficiency, it is sobering to realize that preventive measures are usually the most difficult to put across for several reasons: (a) relatively low salience, among some groups, of health as a value; (b) remoteness of the cause and effect relationship, e.g., using latrines or purefying water vs. yaws control or greater crop yields; (c) existence in the local culture of competing preventive measures, namely, the do's and don'ts of proper behavior which are supposed to prevent sickness and other misfortunes (the social control function of illness beliefs); (d) prevalence of competing concepts about causation and the natural world (Wellin,1955, case of Mrs. F of Peru on germs). So much for the cultural gap.

The Status Gap. In any social system, there are likely to be gradations of classes and social statuses. In many technologically underdeveloped areas, the status gap between the educated elite and the bulk of the population is apt to be particularly marked. The difference between the "felt needs" of these divergent social strata has important implications for health programming and other forms of technical cooperation. The people-to-people approach is laudable enough but it is neither wise nor possible to bypass the ruling elite, whose vested interests may discourage reforms essential to improving the lot of the common man. However this is not always the case. Let us assume that the elite are genuinely eager to assist the masses, a condition that often exists in newly emerging states such as India or Indonesia. The problem here is the divergence of outlook and aspiration between the peasantry and the city-bred elite, coupled with the inability or unwillingness of the elite to acknowledge this gap. While the peasants are reluctant to abandon time-tested ways, the elite of technologically underdeveloped countries are eager to bring their nations, overnight if possible, up to the level of the "overdeveloped" nations.

There is often status gap enough in the United States between physicians and other health personnel, as well as between physician and patients. But the status gaps are greater in countries where physicians usually come from the upper class (rather than middle class, as in the United States), nurses from less privileged strata, and patients in public clinics from the lowest level. In these circumstances, as Simmons (1958) and others have shown, the health "team" may be a hierarchy of command, team-public relations may be governed by mistrust, and mixed technical aid teams made up of American and local physicians may operate under strain due to conflicting modes of approaching the public ("democratic" versus respect relationship).

Ruling elites understandably lay claim to knowing the people of their own country. But as Freedman (1956) points out on the basis of his experiene as a health consultant: "I am impressed by three kinds of error which spring from [this unwarranted claim] . . . The first of these is the error of supposing that within a given political territory all local communities conform to a standard pattern of social organization. The second error is to confuse the legislated pattern of rural life with the actual pattern. The third error is to entertain a view of rural life which I can only call romantic; in this view--and it is a common one--the inhabitants of rural communities are credited with powers of spontaneous cooperation and harmonious co-existence to the extent that they resemble no human community which has ever been studied."

Other gaps which produce problems in many stratified areas include the social status gap--and consequent communication gap--between husbands and wives, between insiders and outsiders, and between youth and elders. The latter gap is likely to be accentuated even in non-hierarchical societies under conditions of rapid culture change or migration to new social environments.

The Aspiration Gap. Expectations of better living conditions, once aroused, are likely to rise more rapidly than improvements in the actual conditions of life. Supplying help and hope runs the risk of intensifying rather than satisfying "felt needs" as rising aspirations outrace material gains (relative deprivation), creating discontent, possible disillusionment, and the basis for extreme political action.

Herein lies an irony and a dilemma. Great masses of people in rural settings living close to the margin of bare subsistence, in self protection have developed an attitude of resignation. They lack the conviction that they are capable of altering their own destiny by concerted effort and determination. In other words they do not share our values of "progress," "achievement," and "future orientations," hence respond only weakly at the outset to health improvement appeals. To get them off the ground, program people may work hard to induce or redirect motivation, creating (if the program is successful) new "felt needs," which then can expand beyond practical bounds and build up a fund of discontent. After reviewing the many practical and cultural objections that must be overcome to gain widespread acceptance of latrines in the Philippine Province of Leyte, Nurge (1956) writes:

"If, by widespread and continuous educative efforts, we succeed in rousing in people a need for the appurtenances of sanitary measures and then they lack the wherewithal to obtain them--they are in a worse state than they were before the education began. At the prior time they were happy and secur in their ignorance; at the later time, they know what they need and do not have money or resources to obtain it. In this connection some attempts may be made to cut down the costs of latrine construction...[etc.]"

The Urbanization Gap. People who leave the rural hinterlands to live in town or city, by self-selection and circumstance are especially subject to discontent born of unfulfilled expectations, although this is by no means an inevitable byproduct of urbanization. Scotch (1960) studied the effects of urbanization on hypertension in South Africa. Blocked by a policy of apartheid, destitute Zulus from rural reservations who live in squatter settlements near Durban suffer degradation and other forms of frustration which exact a heavy toll in somatic and psychosomatic illnesses, particularly among the young men, who bear the brunt of the strain. With few opportunities to express their resentments directly against the whites, African men seek displaced targets, venting their hostility on wives (higher rate of broken homes), other Africans (increased rates of bewitchment and accusations of sorcery), and against themselves (alcoholism and markedly increased essential hypertension).

On the other hand, Mangin (1960) found little evidence of psychological stress or social disorganization among low-status mountain people who migrated to Lima Peru. They too move into squatter settlements which are often crowded with flimsy houses, poor sewage disposal and no water supply. The new residents feel attacked and have a sense of separateness from the city. Nevertheless, for most migrants the new environment represents progress in terms of housing and income, and urban residence spells improvement over the semi-feudal life of the Indian, cholo or lower-class mestizo in the Andean hinterland.

Spoehr (1960) has drawn attention to the rapid growth of Pacific port towns which increasingly link the hinterlands to the great world, give rise to new types of leaders and elites, and convert once self-sufficient communities into a peasantry dependent in many ways on the expanding town centers. He has also (1960 a) drawn attention to some of the health problems that may be created by urbanization in Oceania if remedial steps are not taken: deterioration of diet, slums, urban sprawl, poor sanitation, and possible psychological stress due to rapid shifts in cultural orientation.

The Research Gap. Cultural anthropologists and other social scientists can supply information and viewpoints which well might help medical and health workers to devise and implement public health programs. They can help because they specialize in studying human behavior and because their detached position as observers of the interaction between representatives of two cultures or subcultures--health team and beneficiary population--gives them a measure of objectivity denied those who are immersed in action. But the help they give can only be modest because (a) too few anthropologists are yet familiar with the field of health and the subculture of its practitioners; (b) because too few experts in the health field are as yet familiar with the capacities and limitations of the anthropologist; and (c) because anthropologists have studied culture and how it changes over time but have had less experience studying the process of induced culture change activated by programs of technical aid.

These deficiencies are diminishing as case studies of health and culture accumulate (e.g., Paul, 1955), as anthropologists are added to the faculties in schools of the health professions (Paul, 1962), and as opportunities for collaborative field projects increase. These are encouraging signs but they are not enough. Compared to the sums of money expended on program operations or on medical and other kinds of research to generate new technical knowledge, the sums of money available for studying the human aspects of community development are disappointingly small. In their 1955 report to ICA on community development programs in India, Pakistan and the Philippines, Adams, Foster and Taylor found that: ". . . recognition of the potential usefulness of scientific research in the broad fields of social and economic development generally is conspicuous by its absence. The few American social scientists we encountered were seriously hampered by the failure of their colleagues and superiors to recognize the importance of research into the human aspects of community development. The United States supports research in agronomy, animal husbandry, medicine and education in many countries as parts of development programs, but contributes very little to the research that will promote more effective utilization of the fruits of these technical investigations. Social science research apparently is not a 'felt need' of the U.S. Government, at least in ICA programs. We found that, as far as official agencies are concerned, there is almost no exploitation of the rich research possibilities inherent in community development programs. . . Analysis and evaluation of programs, with a notable exception, is limited to counting material achievements and measuring accomplishments against administratively-set goals. . . We believe that, until such time as social science research techniques and knowledge are utilized much more fully in planning and operations, community development programs will not realize their full potential."

The research gap that impressed Adams, Foster and Taylor in 1955 is no longer so wide and so disheartening. There is growing awareness of the problem and some steps are being taken to do something about it. Closing the research gap would help bridge the other gaps--the cultural, status, aspiration, and urbanization gaps already mentioned. However, social science research should not aim merely to help implement pre-determined plans and policies. Questions of how to induce response to a program should be set in the larger frame of whether to promote a program at all. Beals (1953) expresses this concern when he criticizes ". . . the view that the basic problem is how someone can do something to other people tacitly understood as inferior or subordinate . . . It is time some emphasis of applied anthropology should be on determining what people want and aiding them to get it rather than how they can best be persuaded to do what people in another culture think is best for them. The latter too often is a rationalization really concealing what is thought best for the dominant culture."

Many sections of the world offer opportunities to conduct comparative research on the social, the behavioral, and the policy-formation aspects of community development. Nowhere is the opportunity greater than in the region of the Pacific.

Reprinted from AMERICAN JOURNAL OF PUBLIC HEALTH, Vol. 48, No. 11, November, 1958
Copyright by the American Public Health Association, Inc., 1790 Broadway, New York, N. Y.

Improvement of the environment for better health is not just a matter of technology. It may impinge on various beliefs and customs of people and lead them to reject such action. This basic principle is emphasized in this article.

THE ROLE OF BELIEFS AND CUSTOMS IN SANITATION PROGRAMS

Benjamin D. Paul, Ph.D.

MAN IS A BIOLOGICAL and social animal; he is also a cultural animal. He is cultural in that he runs his life and regulates his society not by blind instincts or detached reason alone, but rather by a set of ideas and skills transmitted socially from one generation to the next and held in common by the members of his particular social group. Culture is a blueprint for social living. Man resides in a double environment—an outer layer of climate, terrain and resources, and an inner layer of culture that mediates between man and the world around him. By applying knowledge which comes to him as part of his cultural heritage, man transforms his physical environment to enhance his comfort and improve his health. He also interprets his environment, assigning significance and value to its various features in accordance with the dictates of his particular culture. Among other things, culture acts as a selective device for perceiving and understanding the outer world. Since cultures vary from group to group, interpretations of the physical environment vary correspondingly.

Ordinarily people are unaware that culture influences their thoughts and acts. They assume their way is *the* way or the "natural" way. Interacting with others in their own society who share their cultural assumptions, they can ignore culture as a determinant of behavior; as a common denominator, it seems to cancel out. An engineer can construct health facilities in his home area without worrying too much about the cultural characteristics of the people who will use the facilities. Sharing their habits and beliefs, he has in effect taken them into account. But in another country with another culture, his assumptions and those of the residents may not match so well. In parts of Latin America maternity patients of moderate means expect a private hospital room with an adjoining alcove to accommodate a servant or kinswoman who comes along to attend the patient around the clock. In parts of rural India the hospital should be built with a series of separate cooking stalls where the patient's family can prepare the meals, in view of cultural prohibitions against the handling of food by members of other castes. And of course the effect of cultural differences looms even larger where sanitation has to be built directly into the habit systems of people, rather than into structures and plants that serve the people.

Anyone familiar with the operation of technical assistance programs knows about the kind of behavioral differences I have mentioned. Unfortunately, however, it is easy to misconstrue these observed differences. Three kinds of misinterpretation are common. The first is to suppose that "they" have more odd beliefs and habits, while we have less of them. We tend to see them as captives of blind custom and ourselves as relatively free from cultural peculiarities. The fact is that all men are creatures of their culture with its inevitable admixture of rational and nonrational elements. Cultures differ and rates of cultural change differ, but peoples do not differ appreciably in the degree to which their actions are influenced by their respective cultures. We are quick to apply the term "superstition" or the epithet "uncouth custom" to the other fellow's manner of thinking or behaving. We may be repelled by the custom of eating domesticated dogs and yet impatient with people who would rather go hungry than eat their cattle. Americans take offense at the odor of night soil in the settlements of Korea and other parts of eastern Asia; a Korean gentleman on his first visit to New York was asked by a friend how he liked the great city, whereupon he replied: "Oh, very well, but the smells are so bad!"[1] Measured by the standards of one culture the manifestations of another are bound to appear more or less arbitrary or bizarre. We need to realize that we have culture, too, and that our ways can seem as peculiar to others as theirs do to us.

Even allowing that our behavior as well as their bears the stamp of cultural conditioning, a second facile assumption is that our ways and ideas are more advanced than theirs, that they have yet to catch up with us. The trouble with this assumption is that it represents a partial truth: Some aspects of culture, notably scientific knowledge and technical skills, are indeed subject to measurement and relative ranking. But knowledge is not wisdom, and many aspects of culture, including language, esthetics, moral codes, and religious values, lie beyond objective rating for want of a culture-free standard of measurement. It is a mistake and an insult to imply, as we inadvertantly do at times, that because some areas of the world are technically underdeveloped their people or their cultures are in general underdeveloped.

A third and particularly common shortcoming in our understanding of cultural differences is a tendency to view customs and beliefs as isolated elements rather than as parts of a system or pattern. The linkages between the parts of culture may be loose or tight and the connections are not always apparent upon first inspection, but it frequently turns out that people cling to a particular practice or belief not merely because it is familiar and traditional but because it is linked to other elements of the culture. Conversely, a change effected in one area of the culture may bring with it unexpected changes in other areas or may result in awkward dislocations, as the following illustration will indicate.

On the island of Palau in the western Pacific the pattern of living calls for frequent and large gatherings of people to celebrate or solemnize certain social events. In the old days, Palauan houses were large enough to hold many people. There were no partitions, and it was possible for each man attending a feast to receive his food in the order of rank and to sit in such a way as not to cause offense by turning his back on anyone. Since the last war, most Palauans live in small two- or three-room houses built in the Japanese or American style. They try to maintain the old customs but they have their troubles. Visitors overcrowd the small house and sit packed together on the floor. They must suffer the insult of having to look at a neighbor's back and must take their food in any order they can. The Palauans are incessant betel chewers—and spitters. The old houses had several doors and numerous floor cracks to accommodate this habit. The new buildings, especially the Quonset huts now being created for chiefs' dwellings and council chambers, have caused a minor crisis. The two Quonset doors are premium locations; knotholes in the plywood floors are too scarce to provide relief for the majority of chewers. Tin cans are coming in as spittoons, but these are in scarce supply.[3]

Housing customs and hospitality customs, once closely linked in Palau, are now in strained relationship. It should be stated parenthetically that social or cultural strains are not necessarily good or bad in themselves; depending on the case, they can lead to increased cultural disorganization or to an eventual reorganization of the sociocultural system on a new basis.

In some instances people strive to prevent cultural strain by resisting environmental and sanitary improvements. In rural India, fecal contamination of food and water by direct contact or contact through flies and rodents constitutes a difficult problem. The source of the trouble is the custom of defecating in the open fields. Use of latrines would go far toward solving the problem. Public health engineers and others working in India have devised special types of latrine adapted to the local squatting posture and designed to meet varied soil, climatic, and water supply conditions. Numerous latrines have in fact been installed, but follow-up studies reveal that only a small proportion are used regularly. Women in particular tend to avoid the latrines. Every morning and afternoon women go in groups to the field, not only to relieve themselves but also to take time off from busy domestic routines, to gossip and exchange advice about husbands and mothers-in-law, and to bathe with water from tanks located in the field. The linked habits of going to the fields for social gatherings and for toilet and bathing activities meet a strongly felt need for community living and relaxation from daily toil. In the women's view, defecation customs are usefully linked to other customs. In the view of sanitation specialists these customs are harmfully linked to a cycle of contamination and intestinal disease. To disrupt the contamination cycle the women are urged to use the new latrines. They shy away from following this advice, partly because doing so would disrupt an ensemble of customs they prefer to keep intact, and partly because their culture has given them little basis for comprehending the connection between feces and enteric diseases.[3]

I began by saying that culture mediates between man and his material environment. In an article analyzing the outcome of a rural sanitation program in a small Peruvian town, the author explains how perceptions of so common an environmental element as water are culturally screened:

> A trained health worker can perceive "contamination" in water because his perceptions are linked to certain scientific understandings which permit him to view water in a specially conditioned way. The Peruvian townsman also views water in a specially conditioned way. Between him and the water he observes, his culture "filters out" bacteria and "filters in" cold, hot or other qualities that are as meaningful to him as they are meaningless to the outsider.

An important part of the local culture is a complex system of hot and cold distinctions. Many things in nature, including foods, liquids, medicines, body states, and illnesses are classified as essentially "hot" or "cold" or something in between, irrespective of actual temperature. Sick people should avoid foods that are very cold, such as pork. "Raw" water is cold and fit for well persons; "cooked" water is hot and fit for the sick. The times of day when water can be boiled are hedged in by limitations of time and fuel and further restricted by "hot" and "cold" considerations. Water is consumed mainly around noon. Water boiled later in the day and standing overnight becomes dangerously "cold" and must be reboiled in the morning. So it is useless to boil it at any time other than the morning in the first place. The patient efforts of a local hygiene worker to persuade housewives to decontaminate their drinking water by boiling it met with only limited success in the face of of these cultural convictions.[4]

It is interesting to note that the hot-cold idea system now widely current in Latin America apparently goes back many centuries to the humoral theory of disease expounded by Hippocrates and Galen and transmitted by Arabs to Spain and by Spaniards to the New World, where it retained a place in formal medical teaching until the 18th century.[5] Folk theories of medicine in contemporary rural India and in other parts of Asia indicate that the humoral theory spread in that direction, too, if indeed it did not have its origin somewhere in Asia. In the course of its travels the humoral theory underwent modification, so that its present form in Asia is not identical to the one in Latin America. It is remarkable that cultural complexes such as the hot-cold idea system should persist, however altered, through such long periods of time.

Objectively viewed, the cosmos and all its contents are morally neutral; nothing is good or bad in itself; it simply is. But man clothes his cosmos in a moral cloak. He evaluates it, holding some things to be good and others evil. Values, the fundamental bases for choosing between alternative courses of action, are a central part of any group's culture. Values differ, but these differences are less apparent than differences in language, dress, posture, rules of etiquette, or other overt features of the culture. Because values usually remain below the level of awareness, we are particularly apt to impose our own values upon others on the innocent assumption that we are merely helping them achieve better health. Members of our own middle class tend to make a virtue of tidiness, apart from its possible bearing on sanitation. Cleanliness is both a health measure and a cultural value. This distinction can be appreciated if we glance back through history to see the shifting value assigned to bathing and cleanliness from the time of the ancient Greeks. Such a review also illustrates the connectedness of the parts of culture.[*]

Although they built no great baths, the Greeks valued athletic sports and despised the Persians for their false modesty in keeping the body covered. The Romans, taking over much of the Greek cult of the body, constructed enormous public baths where men of leisure spent hours daily. The early Christians set themselves against the established pagan religion and also against many of the attitudes and amenities inherent in Roman culture. Baths were construed as instruments of paganism and vice, as devices for softening the body rather than saving the soul. Before long, even minimum cleanliness by current standards was seen as the road to ruin. The ascetic saint was indifferent to filth; attention to personal cleanliness, especially on the part of a man, incurred the suspicion that one might not be too good a Christian.

Bathing occupied an important place, however, in the lives of Europeans during medieval times. As the vessel of the soul, the body needed to be preserved. The monastery of the early Middle Ages had its bathroom for friars and pilgrims. By the 13th century, public bathhouses had come into use in the cities, providing both steam and water baths along with haircuts and minor surgery. But the presence of food and drink, girls and music increasingly converted the bathhouses into places of amusement and eventually earned the opposition of the clergy. Moreover, the bathhouses became centers of infection when syphilis began to plague Europe at the end of the 15th century. Municipal bathing disappeared from the urban scene, private houses lacked baths, and the entire custom of bathing was condemned for reasons of morality and health.

---

[*] The following résumé is based on these sources: A. L. Kroeber, Anthropology, Harcourt, Brace, 1948, pp. 600–602; H. E. Sigerist, Medicine and Human Welfare, Yale University Press, 1941, pp. 69–72; A. C. Varron, Medieval Hygiene, Ciba Symposia, Vol. 1, 1939–1940, pp. 213–214.

Interest in bodily cleanliness was revived in the 18th century with the growth of enlightenment, the increase in comforts, the refinement of social manners, and the rise of the bourgeoisie. The lead in this direction was taken in countries where the new wealthy middle class became especially influential; hence the scrubbing of Dutch doorsteps and the proverbial Englishman with his portable bath. Today, in the United States, prosperity, democracy, and frequency of bathing have become linked values. Americans say that cleanliness is next to godliness, an indication that bathing and cleanliness are affect-laden values in contemporary middle-class culture as well as a means to better health. Yet even in the United States bathing is neither as old nor as general as people now assume. Ackerknecht reminds us that President Fillmore was as much attacked for buying a bathtub for the White House in 1851 as was Harry Truman in our time for his balcony.[6]

We might have more success in exporting our technical means for improving the world's health if we could manage to divest these means of the values and other cultural trappings that accompany their use in the American scene. It might then be easier to fit our technical means into foreign cultural contexts. To do this we need to become skilled in perceiving our own cultural contours and those of the country we strive to help. This is one of the reasons why instruction in cultural anthropology and other social sciences is rapidly being introduced into schools of public health.

REFERENCES

1. Moose, J. Robert. Village Life in Korea, 1911.
2. Barnett, H. G. Innovation: The Basis of Cultural Change. New York: McGraw-Hill, 1953, p. 91.
3. Mimeographed material distributed by the Research-cum-Action Project in Environmental Sanitation, Government of India Ministry of Health.
4. Wellin, Edward. "Water Boiling in a Peruvian Town." In Health, Culture and Community: Public Reactions to Health Programs (Benjamin D. Paul, Ed.). New York: Russell Sage Foundation, 1955.
5. Foster, George M. Use of Anthropological Methods and Data in Planning and Operation. Pub. Health Rep., 68:848, 1953.
6. Ackerknecht, Erwin H. Personal communication.

Dr. Paul is associate professor of anthropology in the Harvard University School of Public Health, Boston, Mass.

This paper was presented before a Joint Session of the Conference of Municipal Public Health Engineers, the Conference of State Sanitary Engineers, the Inter-American Association of Sanitary Engineering (U.S.A. Section), and the Engineering and Sanitation Section of the American Public Health Association at the Eighty-Fifth Annual Meeting in Cleveland, Ohio, November 15, 1957.

II. "HOW TO" COMMUNITY HEALTH EDUCATION

The Group Approach to Introducing New Ideas 32
Community Organization Aimed at Encouraging Village People to Want to Use a Latrine 41
The Case of the Missing Latrines 48
Suggested Outline For Use by Countries in Discussing "Health Education of the Public" as preparation for the Technical Discussions at the 12th World Health Assembly in 1959 57
Documentation of Community Data 72

THE GROUP APPROACH TO INTRODUCING NEW IDEAS

You are working in an area where you want to bring about change to improve conditions for the people. You want to educate the villager in new ways. You can't do it. Villagers must decide to improve or change their ways of doing things themselves. You can stimulate their thinking in a direction that a change might be desirable. You can help them to know that change is possible! Only the villager can bring about change in this behavior.

Let Us Look at the Village—Or Area in Which You Will Work

Villagers are people who think, feel, reason, live even as you and I. The villager has ways of meeting the problems with which he is confronted. He has ways of acting which are acceptable to him. He is not a vacuum waiting to have some new idea poured into him. If he is to learn a new idea—or find a new way of doing things there must be a good reason for him to do so. There must be reason powerful enough for him to make the necessary effort to change—because it is easier to keep on doing things as before. Yes, change requires effort and the reward for this effort must be sufficient or important enough to us or to the villager to be willing to make the effort.

Why Do You Learn

Why does a child learn to cry - talk - eat - walk? It is easy to see that a basic need is being met in these situations and that the motivation underlying the need is strong—survival! It is not difficult also to see that very early in a child's life the desire for love, affection and acceptance become strong motivating factors that continue throughout his life. Motivating factors of various types underlie all courses of action or inaction!

A few motivations follow—can you think of others?

Love or Desire for Affection. Early in our lives, we learn to talk and imitate the speech of our parents to please them, and gain their affection as well as to satisfy physical needs. Love is important to all people. Will a man find ways of improving his income to assure a better life for his family? Will he work to protect his family's health? Will a mother endeavor to have a more attractive home for her children? Will she strive to safeguard the health of her children? Will a child try to educate his parents if he thinks it is to their advantage?

Prestige. Many of us studied faithfully in school because we did not want to fail or because we wanted to come out among the first in the class. Many of us choose a profession which carries prestige. Will a man or woman take part in some community activity in which they have the opportunity of gaining the respect of their fellows? Conversely will someone who is respected or has authority oppose a project in which they are not participating?

Acquisitiveness or Greed. Who would not like to improve their income? In addition many of us tend to want things the "other fellow" has. Or to want something the other fellow can't have at a particular time. Will villagers follow the lead of someone they think important and install a latrine—or change their methods in agriculture—or improve their village conditions because another village has?

Consideration for Other People. Is the religious concept for consideration of others an important factor in life? Can this method be used to encourage people to make use of a community facility properly? To build a school for the coming generation? To encourage people to use a latrine or engage in mosquito control?

Everybody is Doing It. Most of us feel "pretty average" and if we are convinced that everyone is doing something we want to do it too. Can group pressure be used to encourage people to eat proper food, improve their village or to use a latrine?

Change a Group Situation

Notice how frequently the above motivating factors are related to other people? Many of our reactions are group oriented—"what will people think—what will people in the village say?"

Our present responses to a given situation have been learned out of past experience. Most of that learning has been associated with other people. New learning must also take place in a group situation.

Our earliest learning takes place in a family setting—many of our ways of meeting situations are learned from our Mother and Father as well as other members of the family. Their behavior has been patterned in many situations after acceptable behavior in the village or area (caste) in which they live. Any change in behavior must therefore take into account developing group thinking and feeling about the necessity for change. Let us emphasize feeling. Many of us think "we think" when in reality we feel! That is why the underlying motivation or emotional climate is so important in bringing about change.

Any program to bring about widespread change must therefore take into account how to develop group consciousness of a problem—how to develope a group desire to bring about change!

Steps to Start an Educational Program in a Village

1. Find out who are the leaders. Why? Most of us are responsive to those whose opinion we value. If our leaders are interested in something, concerned about something, want to do something—most of us follow along. Most of us exist in many groups: professional or work situations, social, family, political, religious. If the attention of leaders of all groups can be focused simultaneously on a given problem, we have proceeded in the direction of focusing the attention of an entire village. This means analyzing the different groups which exist in a village. Some leaders stand out very easily such as the political, religious, school or professional leadership of one kind or another. Other leaders are not so obvious because they exercise their leadership from behind the scenes. Don't forget that there are leaders among the women too! How many different kinds of leaders can you name?

These leaders—if they are leaders—can do much to move opinion in favor of the program we may have in mind. However, we want them to do more than hold opinion—we want them to plan and carry out the program. We will be the resource person to their program.

Obviously a little visiting around the village and talking with people will get you the names of some of the leaders in the first hour. Others will become known to you only after some skillful questioning.

2. We talk with the leaders about the problem or problems we have in mind and also about the problems they have in mind. Sometimes we must be prepared to do a lot of listening to their problems before we can begin the real job of what we have come for; namely to stimulate their interest in a certain direction. Sometimes we must start with the problems people have in mind before attacking a more important problem from our point of view. We want to do two things in our initial visit with them:

a. To stimulate their interest in a particular problem. (We do this by asking them what they know about it? Telling them what we have heard about it in the rest of India. Asking if there are any ways they would suggest of getting information about the problem in this village? Asking about other people who might know something about the problem? Asking for permission to use their name in talking with the other person? Asking for any ideas they may have regarding the problem?)

b. To create the idea that something can be done about the problem and that they are the ones to do it. (We do this by telling them what seems to be the most modern and scientific experience --or by telling them the experience of a particular village—or by quoting some authority that may mean something to them (the local tax collector or village headman). We drop the idea that what you are telling them can be proved if they wish to see proof and make up their own minds.) Who does not want to assist change for the better particularly if appropriate motivation is used in discussing the change for the better. Leaders will have both personal and community motivation targets.

A word of caution: Our role as professional people is not to tell people what to do but to create the idea that something can be done if they wish it! This approach means putting ourselves on the same level as the village people in being able to sit with them and ask their ideas about particular problems—not standing over them and handing down dictums from a superior position.

These talks are largely individual although it is almost impossible to have an individual conversation in a village. Don't press them—give them time to think about the problem and to wonder about the kinds of things which can be done about the problem—if they wish it! Suggest such things to them in a "have you ever thought" vein—do not press your ideas upon them.

3. As contacts are made from leader to leader, ask one or two whether it might not be desirable to get all leaders together just to share ideas on the problem.

Remember our approach is a questioning one. For example if it is in the health field we can ask about the amount of illness which exists. We may drop the idea that in most villages of India people are dying—dying unnecessarily—people's strength and ability to do a day's work sapped through illness—children are not as healthy as they might be if modern ideas about health could be brought to and put into practice in the village.

(In such a conversation many things are taking place. We are getting acquainted. We are asking the leader for information and this is flattering to him. His prestige is increased and he feels that you must be pretty intelligent too to want to find out a few things about the village before tackling a problem. We are stimulating his ideas that a problem may exist even though he has not been aware of it in the past and may not be able to tell you much about the problem. We are inserting the idea that perhaps a study of the problem could be made or at least some information obtained on the problem. We are suggesting that improvement in conditions in their village may be made. This improvement can only take place if the villagers wish it. Again, this flatters feelings of importance in being master of the fate of their own village.) This is not done to put "something over" on the leader but to satisfy the conditions in which learning may take place.

A need must be recognized;

A way of meeting that need must be available;

Reasons for meeting the need must be strong enough to bring about action;

The action must be in accordance with or at least not opposed to strong basic beliefs.

4. Group Discussion—in getting leaders together and giving them the opportunity to express their ideas about the problem they become further involved in the problem. (Their first involvement has been in talking with you about the problem. Their second has been in thinking about it after you left and probably talking with others about the problem. This last is true particularly if he knows you are discussing the problem with others in the village.)

An important step in further involvement to the point of being willing to take some action comes in expressing his own ideas about the problem. This necessitates thinking on his part and as soon as you have some thinking going on you have some progress.

Group discussion is an activity related to a problem. The more activities which can be carried out the more involvement we have; the more thinking we have; and the more thinking we have the more chance there is to see reason and value in change. The next step after that is change itself; or in terms of our work the planning and undertaking of some new way of meeting a problem.

In group discussion try to lead your leaders through the following six steps: (You may wish to act as chairman of the discussion but it is preferable to have one of the leaders do this if you can go over plans for such a meeting ahead of time with him.)

1. Recognizing the problem. This they do to some extent in your original conversation with them but it is reinforced when they find that others are also concerned about a particular problem in the group situation.

2. Finding the facts to solve the problem. What is the problem? How large is it? What can be done to solve the problem? Who is involved in solving it? Encourage the group to make a complete analysis of the problem asking such expert help as may be needed.

3. Reaching a decision as a group to attack the problem.

4. Planning a joint course of action. Who will do what? When will it be done? Where will it be done? How will such other people as need to be involved be reached?

Deliberate involvement of as large a number of people as possible is good because it means that many more people know and understand the problem. All those who participate learn something. Men, women, children; youngsters, oldsters; music makers, puppetters, artists, speakers; all have some skill which can be utilized in carrying out a community program of interpretation of a problem.

Remember people have five senses: seeing, hearing, tasting, smelling, feeling. How many of these senses can be utilized in your program as a means of providing an experience to all in the village.

A number of community committees can be organized to carry out various activities, e.g., Planning Committee, Financing Committee, over-all Education Committee, block or area Education and Contact Committees. Involvement is a major principle of education for change.

5. Doing the job. This is the step toward which you have been planning be it building a road or a school, planting kitchen gardens to improve nutrition or putting up the latrines for which the need has been seen. This is the step which will give the villagers a great measure of satisfaction and which will draw the group more closely together preparatory to an attack on another program.

6. Don't stop yet—evaluate. Encourage the villagers to build into their "plan of attack" an evaluation some time after the program has been underway. Are they using the latrines which have been installed? Are they using up-to-date methods in their fields? Are they actually using ragi along with rice in their diet? Are all of the children really going to school? After the initial phase of the program is over, follow-up needs to be done to determine how successful the program has been. What can be done to make it more successful?

Visual Aids

In your village programs you will want to use many different methods of visualizing the problem. With your guidance and suggestion and with ideas of their own villagers can assist in finding ways of visualizing a problem. Work on materials of various kinds provides an excellent experience and a way of learning new things. In order to visualize a problem so that others may understand, we must first understand it ourselves. Interest in a program will usually be heightened if villagers make their own materials and demonstrate their use to their friends and neighbors. Both children and adults can make posters, flash cards, build demonstrations, flannelgraphs, puppets, etc.

Some tips:

1. Posters:

   a. Should be able to read at a glance.

   b. Should relate to something important to villagers (motivation).

   c. Should be easily understood.

   d. Should be in keeping with ways of acting (action suggestion).

e. Should have human interest.

2. Flash Cards:

(All of above.)

3. Puppets or Stories:

(Can be used to present some real life situations which will be amusing as well as educational to villagers—see b, c, and d of posters.)

4. Flannelgraphs:

Are simple to make. A piece of flannel—an old blanket, or a piece of khadi stretched over a frame or back of some kind and you have it (see also posters).

Cut-cuts, with sandpaper, flannel or khadi pasted on the back will stick in a most dramatic fashion to the material. (Khadi on khadi, etc.)

5. Moving Pictures:

Plan ahead when showing a film. Be sure that physical conditions are right, seating, etc. Be sure your projector is in good working order. If possible avoid the waiting around while things are made ready.

Where a projector is available you will find moving pictures helpful if properly used.

a. Always preview a film in advance yourself. You may wish also to involve a group of villagers in previewing the film. They can decide if a film is suitable and make plans for presenting it to others in the village.

b. Give a purpose. If your group has a purpose for looking at a film it will be easier to get something out of the experience of viewing it. A couple of questions given to the group in advance will suffice. With your preview group the questions can be: "Is this film suitable for use in the village in our program of work? How shall we use it?"

c. Introduce the film. What is the film about—it is easier to understand what the message of a film is if we have some clue.

d. Discuss. After the film is over talk about it. Let some villagers or perhaps your preview group mentioned above lead discussion. What answers did the group find to the questions posed to them before seeing the film?

e. Show the film again. Many times it will be desirable to look at the film again to get additional information from it. People who are not accustomed to viewing films may have to see a film several times before identifying information contained in the film.

Pretest All Materials

How can we be sure people will understand materials prepared for them—posters, pamphlets, stories, puppet shows, visual presentations of all kinds? We can try them out. We can test them under conditions similar to those in which they will be used.

What is the purpose of the material? What information is it supposed to convey? What motivation is used? Is the action which is wanted clear? Does the material make people want to act?

The answers of people for whom material is intended will give you an idea of the effectiveness of your material. Questions may be suggested to the people as to how to make the material more attractive and to carry more "punch".

Let Us Look at Ourselves

Our job is to stimulate interest in the village problem, encouraging villagers to think about them—encouraging villagers to believe that conditions can be improved if they wish. Our approach should be a friendly, questioning approach, rather than telling them what they need to do. We must tactfully stimulate thought on the part of village people, particularly in the leadership group. We must provide the opportunity for leaders to sit in council together and discuss ways of improving conditions in the village.

Our role is not to tell but to promote discussions so that a thoughtful consideration of problems takes place. Questions will usually serve better than statements.

Our successfulness in carrying out village activities depends on the extent to which people see the program as theirs! Success will be proportionate to the extent to which village people say "look what we did"!

Approval is extremely important. We must find ways to bring approval to villagers who are trying to improve their village, e.g., bring an official who will praise them; write a newspaper article; make a village Bulletin Board where progress notes may be posted; take villagers to other villages to be resource people on "how you do it"; make an exhibit of their activities for a festival; obtain congratulatory letters from officials.

You will think of other ways to make villagers feel that all of India is interested in their village.

Remember

There is a significant difference between knowledge and understanding between understanding and action. Learning cannot take place unless and until the learner translates and incorporates the knowledge into action related to his questions and his problems. What facts mean cannot be significant unless the learner discovers for himself what the facts mean to him. Possessing verbalized ideas is one thing—being possessed by ideas is quite another. Genuine learning does not end in ideas but in muscle and gland—in action!

Recipe:

Specific Problem + Motivation of People concerned x Various ways of learning through activity = Education Program

1. What is the specific problem? What is it we want people to do?

2. Who are the people concerned? Everyone? Men? Women? Children?

By Priority

Who are their leaders?

COMMUNITY ORGANIZATION AIMED AT ENCOURAGING VILLAGE PEOPLE TO WANT TO USE A LATRINE

The Problem

One of the most important health problems which confronts India today is the disease spread through indiscriminate defecation. Faeces from sick people containing germs of illness are spread through getting into water, by flies and through children picking up dust containing faeces. Hookworm is also a problem in some places and when people walk unknowingly where someone has defecated previously small worms bore into their feet causing the disease.

Large numbers of children die each year from infant diarrhoeas. At any given time large numbers of people have diarrhoea, their energy and health is, therefore, not what it might be. Cholera and Typhoid are frequently recognized as important and things which people wish to avoid. Few people even recognize the association between indiscriminate defecation and disease of any kind. If people can be helped to see this problem in the light of their own interests will they want to do something about it?

The problem, therefore, is to dispose of faeces in such a way as to prevent there getting into the water supply, prevent flies from sitting on it and spreading it around, and to prevent people from walking on faeces. A latrine is the most obvious answer and certainly the most certain. There are however, other methods such as learning to cover faeces with several inches of dirt after defecation in the field.

The Solution to be Tried

Government has attempted to get at this problem in the past largely through an attempt to encourage people to have latrines without any real understanding of why they should. In many places, force or prosecution has been used as the method. Since the problem involves day after day behaviour of large numbers of people, it does not appear to be one in which force is practical. Since the problem involves day after day choice of people as to what they will do any action to bring about change must involve the people in a consideration of whether or not change is desirable.

The basic principle in the program now being tried is that of involvement of the people in villages in a consideration of the problem, how it affects them and their children, and what they can do about it.

Past attempts to approach people within the framework of this problem have been largely individual. The present attempt shall be group oriented, aimed at involving people in villages in group discussion, group consideration of the problem, group action in the hope that out of such attempt will group pressure to bring about behaviour change.

The role of the professional person in this type of program is of a catalyst, a stimulator, a suggestor, a resource person. It is his problem to talk with people and stimulate their thinking about the problem and what can be done about it if they wish. He should be aware of resources, channels of information, visual aids etc. He should attempt to involve them in a consideration of the problem choice for action is theirs, the program of action is theirs, the results of action too are theirs. The extent to which the people see the program as theirs is the true measure of its success.

Problem:

1. Disease caused by indiscriminate defecation is a tremendous problem in India causing a needless loss of life as well as untold illness.

2. Villagers are unaware that present practices cause disease and death.

    a. Villagers have only vague notions of disease causation and are largely unaware of germs. Things smaller than they can see are not known to them, as for example dirty water is water with specks, dust, or insects in it that they can see.

    b. Villagers feel that going one or two furlongs from their homes removes the material to a good distance.

    Villagers feel that a latrine is unhygienic and foul smelling. They resist using the same place someone else has used.

    Where villagers do use a latrine convenience in an important reason for using a latrine.

    Privacy, particularly for women is also an important reason for having a latrine.

    Cleanliness of home and village may also be a reason for using a latrine.

    Many people can't afford a latrine or they think they can't because the cost is not usually as great as people think.

Programe Objective:

The goal of this program shall be to involve villagers in thinking, talking, planning, and, if possible, a decision to action followed by action itself around the problems mentioned above.

Suggested Procedure to be Carried Out by Village Level Worker with Guidance and Assistance of Research-cum-Action Team

Discover Leaders:

1. Who are the important people in the village? Whose opinion to other people respect and follow? · Who are the leaders in the following groups:
   - Age (young - old)
   - Sex (Men - Women)
   - Caste
   - Occupational
   - Religious
   - Official Village Leaders -
     As Panchayat President,
     Village Munsiff, Surgeon, Headmaster *

   If you don't already know these people talk to some of the villagers about who is important in one way or another. Who is wise? Who is the person they will follow in doing something about a village problem?

   * See school program for activities within the school. Headmaster should be contacted early and participate in Community Program as well.

2. Talk with each of the village leaders individually, if possible, utilizing a questioning approach in an attempt to find out how they view the problem. Start from the general and work down to the specific problem in mind as follows:

   1. What kinds of things have they been doing in community development in this village — this is known to village level worker but review with them to set the scene that change is going on in their village.

   2. What kinds of things need to be done in this village?

   3. Do they have any particular illness in this village?

   4. What do people die of mainly in the village? Do they have many children under 5 years dying? If so, what from?

   5. Do they have diarrhea, dysentery, cholera, typhoid, worms in the village? What do people say causes this illness?

6. Are there any latrines in the village? Where do people go out?

7. Has any thought been given to constructing latrines?

8. Has any one ever thought there might be some relationship between indiscriminate defecation and this illness? Do people know that they are eating and drinking faeces?

9. If these diseases could largely be stopped if the people themselves decided they wanted to, would people in the village want to plan together to do away with diarrhoea, dysentery, cholera, worms, etc.

10. If people in this village know that it is indiscriminate defecation which causes so much trouble, loss of life and illness, would they want to use a latrine or some method of covering or disposing of faeces where it can do no harm. Offer to prove the dangers to the leaders if they wish it.

11. If a few people use a latrine, it may help some but will it stop the spread of disease to any families? To protect any family, must all families use latrine?
12. Ask village leaders what other important people or respected people you should talk to about this problem? Someone who can give additional information as to how people feel about this problem.

Ask a leader who is recognized by all if he would be willing to get the group together at some time so that thinking might be shared and thought given to whether or not this is a problem which the village should do something about.

(NOTE: In discussion with leaders, rely on different types of motivation -- see which seems to bring the best response:)

Protection of children's health,
Convenience,
Privacy for women,
Cleanliness,

Competition - Other villagers are removing this menace from their village

Pride in their Village - They have done so many things to their village but this problem remains.

3. Obtain certain factual information from village sources:

a. Size of village - Number of hamlets - Size - approach roads - whether satisfactory - Present or Rural Dispensary, Maternity Centres, etc. Particulars.

b. Water sources in the village - including hamlets and cheris.

c. Diseases prevalent in the village - and other particulars of deaths, causes of deaths, Infantile Mortality rate - Maternal Mortality rate, prevalence of epidemic diseases.

d. Defecation habits of the village -

e. Do people see any relationship between (e) and (d).

f. Economic position of the village - Occupation of the people - who are the leaders - what have been the achievements in the village.

4. Arrange for group discussion by leaders previously contacted individually. A local leader should preside, if possible, and lead the discussion along a previously worked out agenda. Professional worker will act as resource person giving information on request and answering questions.

Suggested Agenda: The Problem

Phrased the way in which the people seem most responsive.

Does this problem exist in our Village? To what extent?

What can be done about this problem?*

What action do we wish to take on this problem?

5. Possibilities for action which will provide learning opportunities for villagers. Important: Since the problem is one which involves day to day behaviour on the part of everyone, ways must be found to involve as many people as possible in the action program to give them an opportunity to learn and understand the significance of this problem to them: people from all sections of the village must be involved? e.g. Hamlets and cheris.

Demonstrations:	How diseases spreads via flies How disease spread via water Different types of latrines

These demonstrations may begin at the first meeting with villagers and contined with each subsequent group to help them to visualize as well as give the problem reality!

Film Showing:	How diseases Spread Insect Carriers of Disease

Surveys: What are current practices in the Village?
What would people think if these were shown to be causing illness and disease?
How many people would want a latrine
How much can people pay for a latrine? ++

++ See Financing of Latrines.
* Sanitation for alternative method of meeting the problem

Materials: People to plan and work up materials to visualize this problem to their neighbours?

Plan utilization of materials. Test materials.

Meetings: Plan and carry out public meetings.

Individual Contact: House to house canvas, discussing the problem or planned discussions at the well and other gathering places about the problem and its importance.

Field visits: Trips to see different kinds of latrines.
Reporting back on observations to village.

Committee Activities: People may be involved in carrying out committee activities to do each of the above listed jobs. As mentioned above involvement should be with as many different people as possible.

Committees: General Committee (over program)
Education Committee
Financial Committee **
Evaluation Committee
Demonstration Committee

Evaluation: Plans for the introduction of latrines should include a periodic evaluation on the part of villagers as to how the program is progressing:

How many latrines have been installed?
Are people using them?
What can be done about the people who are not using them? Can they be approached through their family, their neighbours? Influence of someone they respect should be brought to convince them. What needs to be done to make this program more effective? More educational programs, demonstrations? e.g. How far a fly can fly.

Comments: This program is by no means all inclusive. Additional ideas may be obtained from villagers as to how this program can be put over more effectively. Let them assist in providing ideas. Try to get theirs and use the foregoing suggestions only as stimulants to get ideas from the villagers.

What are normal ways of getting information around the village? Can these be used in the program?

What recreational opportunities are there which might be used: puppets, dramas, songs, storytelling.

Who are the parents of the children who died during the past year? Will they interest themselves in this program?

Important: Ways must be found to give recognition both to individual workers as well as to the village for its work.

Suggestions: Take pictures of key people. Post on bulletin boards (this means starting a bulletin board, e.g. Panchayat Board Office or Reading Room.

See that gathering spots have things posted too.

Take key people to see people who may be interested in what they are doing.

Bring important people to village to see how program is progressing.

Put articles in newspaper and Radio

Have certificate of health given to village.

** Sanitation for alternative methods of meeting the problem.

THE CASE OF THE MISSING LATRINES
(Or a Group Health Education Program in One Village)

Dec. 5, 1956 Ellichur Village - the BDO for Sriperumbudur said that this village would be a good one for RCA work. It is a village of 600 with two more hamlets. A building for a doctor has been constructed. There is a Maternity Center and a Reading Room. There are plans for a new school.

Dec. 31, 1956 Visited the village and talked first with President of Sungum, Sri Muregeson Mudliar, and subsequently with the President of the Panchayat, Sri Gunapathi Mudaliar as well as Sri Viswanathan Mudliar. Asking about the village and its activities, we were told that this is a progressive village which has undertaken and carried out the activities mentioned above. There do not appear to be any health problems to speak of. Diarrhea is not a problem. When told that in most villages in India about one person out of every four has diarrhea, dysentery, or worms, they indicated that there was dysentery and worms.

There are no latrines in the village. When asked if any one had ever connected present defacation practices with the dysentery and worms, they said no. When asked if this condition could be stopped would they want to, they said that they could hardly believe that there could be a village without dysentery.

In asking about defacation practices, they reported that people go out one or two furlongs from the village.

When asked if it were proved to them that this practice was dangerous if people in the village would want to put faeces where it can do no harm, all agreed it would be a good thing.

The villagers expressed a desire each individually that we undertake a program with them to stop disease in the village.

Same Day By request a similar conversation was held with a group of ladies to get the female point of view. Result: dysentery, scabies and itches are very common emong the children. The ladies would strongly favor a program to stop disease or the threat of it to their children. They would favor latrines if they would protect their children from

BEST COPY AVAILABLE

BEST COPY AVAILABLE

diarrhea, dysentery, worms. They wo ld favor latrines as a convenience to themselves.

Feb. 4, 1957 Similar conversations with the members of the sungum were carried out: a harijen member, members from each hamlet. Areas covered in the conversation utilizing a questionning approach: talk about the village, its accomplishments, its aims (would like to be a healthy village) the kinds of problems the sungum was concerned about. (They want a doctor but when asked if it might not be just as important to prevent illness, they agreed that it was). Disease; illness. (We discovered that last year 8 out of 16 deaths were in children under five). While in Ellichur the cause of death was listed as other, the usual thing is that most are diseases of faecal origin.

Considerable resistance was thought to exist to a program of latrine construction when existing practices were discussed. All agreed that no one was in favor of disease and that if it could be proved that present practices were dangerous, particularly to children, some people would want latrines. It was suggested that 20% of the main village could be encouraged to accept latrines.

The feeling that this problem should be taken up for action was expressed. The President of the Sungum who was contacted also suggested that a meeting be called to discuss the problem on February 11 at 4 P.M. with the expectation that members not contacted up to that time could be present.

February 11 Meeting attended by members of Panchayat as well as members of the Sungum by request of the Sungum. President of the Sungum presided and called on Miss Galiher to review the problem of the spread of diseases of faecal origin: She discussed the problem of faecal-borne disease as a cause of death in children as well as a cause of illness and incapacitations (about 1 person in 4 is affected). The choice of whether something is done abbut this is up to the people themselves!

By request Dr. Subbiah described briefly the manifestations of faecal-borne illness one finds in a village: diarrhea, dysentery, cholera, typhoid, worms and how each is spread through water, flies, and in dirt.

At the suggestion of the President of the Sungum the film "How Disease Spreads" was shown before any discussion took place. Discussion was not general but several comments were made that disease was being spread as one saw in the film.

(Ellichur) Flies had been caught and put on media. It was explained that flies carry faecal material on their legs and can fly a distance of 4 miles! The media was left with the President of the Sungum in the expectation that those present would inspect the material in 24 hours to see what had happened and if growth had taken place on the media where the flies had walked. To further illustrate the point, everyone very enthusiastically looked with amazement at the legs of the fly under two reading glasses!

Further discussion pointed up that disease was probably being spread by people defecating around the village tank. Education of everyone in the village was agreed upon and plans were made for a public meeting to be held on Feb.19 at 6 P.M. A request was made by the Vice President of the Sungum for information regarding the costs of latrines.

It was suggested that since it was necessary to educate children that some women be added to the committee!

Feb. 18 (Pictures were taken of general committee). The enlarged committee met in advance of the public meeting. A report on last week's meeting was given. Everyone looked at the test tubes where the fly had walked and commented on the results. More members of the committee took part in the discussion and in reporting on activities of the last meeting. The same film was shown to the committee gathered. (The public meeting was not held at this time because for some reason a lengthy film showing had been arranged and it was felt by those present that a meeting of the village

BEST COPY AVAILABLE

entirely devoted to the subject of disease caused by indiscriminant defacation would be desirable).

A rather lively discussion ensued among the committee members. All members were asked to discuss the problem with other people in the village before the next time as a means of arousing interest. Some of the ladies promised to talk with all the ladies. One old lady from the cheri was asked what she thought of the film and what she would say to people when she returned home. She said that she would say she saw "puchis" getting into water and multiplying and going with the water. People will drink such bad water and will get disease.

Questions were asked about the cost of a latrine, labor to dig one; what to do when you get water at 4 or 5 feet from ground level. The village was promised information on these problems as well as relative costs of different kinds of latrines.

The public meeting scheduled for this time was set provisionally for March 10.

March 3 Before the public meeting a discussion was held with the school teachers regarding some education in the school. The school material was given and teachers indicated they would begin to use it when examinations were over.

The committee met and reported on its activities. A large number of people have been contacted according to the reports given by different members of the committee. Conversations have hinged around the spread of disease from faecal matter. Ladies reported that the women contacted were very much in favor of the program to prevent illness in children.

Financial difficulties were mentioned for people who would like to have latrines. "If aid is given latrines can be constructed."

When asked what objections people had, it was reported that due to the large amount of open space available, people do not feel the need.

BEST COPY AVAILABLE

It was pointed out that the problem is to get people to understand the disease hazard under present habits. The present committee largely represents the main village. Members from all parts of the village and its hamlets must be added to the committee. Committee members agreed to try to get additional people to serve on the committee. Financing was again discussed.

The public meeting could not be held due to difficulty in operating the projection machine.

A meeting with the committee in advance of the public meeting indicated that the committee was of the opinion that a latrine should be built first in the school as a means of developing interest and making it possible for education in the school.

A function could be held in connection with the opening of the school latrine to which everyone could be invited and arouse a lot of interest.

Involvement of enough people in the village and its different sections is still inadequate. A chart showing a suggested organization (Attached) was shown and explained. The chart calls for a subcommittee in each section of the village with committee activity as part of each: education, latrine construction, transportation, evaluation, house-to-house committee.

It was agreed that a committee chairman with members be found for each section. Certain members of the committee agreed to take the organizational responsibility for this.

It was explained that in a project like this it is possible to predict the results entirely on the basis of the number of people who work on the project in some way. If people from 5 houses work, participation will be by 5 houses; if people from 100 houses work, 100 people and their friends and family will participate.

It was decided to break the village into 5 areas: Ellichur 2, and the cheri plus two hamlet committees.

It was agreed to meet in advance of the school function.

A reception committee was formed for the school function.

The film "How Disease Spreads" was shown in public meeting along with an introduction telling about the problem and the necessity of people working to remove the spread of disease through faecal matter. Some discussion ensued at the end of the film. There seemed to be understanding on the part of the people present. (Lighting facilities were poor as were speaking facilities so it was difficult to hold very good discussion.)

May 11 Decoration was provided by village committee. An exhibition was arranged to precede the school function. Water was collected from the tank and put up in a petri dish for looking at first with naked eye, then with a hand magnifying glass. A few drops of water were put under the microscope where the living forms could be seen. Flies were arranged so that their legs could be seen clearly under the hand lens and also under the microscope. Posters were placed on exhibit. The school had prepared a clay model of a latrine as its contribution to the exhibition.

As the meeting began several reports were given on the formation of committees in each section of the village. The villages each have a chairman and three committees: education, latrine construction, and labor committees. The significance of disease spread was stressed and each chairman was given a test tube containing media with a live fly to observe what happens to the media.

The school latrine was opened by the District Health Officer with a fine speech on the importance of latrines as a means of preventing illness. He stressed the importance of latrines for all.

The working of the latrine was then demonstrated for all to see in groups. The people were invited to look at the exhibition and also to see a continuous film show in the daylight projector.

At the end of the film show, the committee suggested that we review work done thus far on the afternoon of the 27th instant with a view to seeing what needed to be done.

May 27 The meeting was attended by the original committee (minus ladies) plus a large number of the new persons from the area committees. Reports on the test tube with the fly in it were given from each area. The problem of the spread of disease through faecal matter was discussed and a poster under production was shown and discussed. All persons seemed to understand the importance of the problem in preventing disease as well as in protecting the health of children.

The extension of further activity, particularly educational, was stressed. It was agreed to get a more actively functioning education committee in each section which might be trained to do some of the demonstrations and exhibit as was done on May 11 in the telling of the facts through a flash card story.

The main committee reported that ten latrines could be begun immediately and that there are a number of other possible latrines. A wagon belonging to a villager will transport necessary slabs.

Follow-up meetings were to be held under the auspices of the village level worker in each area to push the educational aspect and determine willingness or resistance to latrine construction. In conjunction with the activities of the educational committee, the latrine construction committees will make individual contacts to explain the financing and to see which households will be prepared to construct latrines.

WHAT EACH STEP MEANT !

Dec. 5	Background on village..
Dec. 31	Finding leaders, Conversational, questioning approach - not telling, asking ! Information as to how people there view the problem.
Feb. 4	Same as above - beginning involvement of large number of leaders. Information obtained on problem of local facilities, village people "chair" meeting.
Feb. 11	Group discussion as a first step in certain and thought on the part of villagers. "Fly Stunt" provides first hand opportunity to learn possibility of flies carrying filth on their feet. Film showing gives additional background information and thought in connection with discussion. Villagers ask for information regarding cost = thought on their part. Addition of women members seen desirable, shows recognition of need for involvement of others and extends participation.
Feb. 18	Report on their experience given by village people (peoples' activity) and the meaning of the fly experiment is on involvement activity. Repitition of film show and discussion lends emphasis and helps get new women members to understand problem.
March 3	Beginning involvement of school, growing out of general committees recognition of need to educate children. Contact activity and discussion with others. Reaction of other members of the village obtained, (thinking about the problem much more spread beyond the committee)
April 2	Specific planning for school latrines as a way of arousing interest as well as meeting need of school. Helping focus attention of people. Public meeting - first awareness some in village that project is underway, a follow-up to individual contacts made. Need for greater involvement of all sections by people

and plans made to obtain more specific development in minds of all as to how the programme will function committee-wise: committee activity enlarged.

May 11	Exhibition helps to make opening of latrine important.
	Bringing District Health Officer (an Official) helps to make occasion important.
	Participation of school children in making model a step in their involvement, group discussion.

ooOoo

63

WORLD HEALTH
ORGANIZATION

ORGANISATION MONDIALE
DE LA SANTE

A12/Technical Discussions/1
31 March 1958

ORIGINAL: ENGLISH

SUGGESTED OUTLINE FOR USE BY COUNTRIES IN DISCUSSING "HEALTH EDUCATION OF THE PUBLIC"

as preparation for the

TECHNICAL DISCUSSIONS AT THE TWELFTH WORLD HEALTH ASSEMBLY IN 1959

Reproduced with permission by the U. S. DEPARTMENT OF HEALTH,
EDUCATION, WELFARE, Public Health Service, for use in the
United States

CONTENTS

BACKGROUND INFORMATION

OUTLINE FOR DISCUSSION OF HEALTH EDUCATION AND FOR COUNTRY REPORTS TO THE WORLD HEALTH ORGANIZATION

- Content of Outline
- Use of Outline
- Values of Health Education

AREA I - PLANNING FOR HEALTH EDUCATION

- Topics for Discussion
  1. Collecting information essential for planning
  2. Establishment of objectives
  3. Assessing the barriers to health education and how they may be overcome
  4. Appraising apparent and potential resources
  5. Developing the detailed plan of operation

Material to include in Report to the World Health Organization

AREA II - ORGANIZATION AND ADMINISTRATION OF HEALTH EDUCATION SERVICE

- Topics for Discussion
  1. The objectives, functions and scope of services now performed by the health education unit
  2. The essential functions and services that are most needed
  3. The number and types of personnel
  4. Provisions made for attaining and maintaining high quality of staff performance
  5. Budget needs to carry out the necessary services
  6. The administrative level in the organizational structure
  7. Extent of co-operation and co-ordination with other agencies
  8. The most urgent needs with respect to the organization

AREA III TRAINING OF PERSONNEL IN HEALTH EDUCATION

- Topics for Discussion
  1. Responsibilities and opportunities for health education
  2. Present facilities for training of such workers in health education
  3. The preparation needed by each category of personnel
  4. The desirable facilities for such preparation
  5. The in-service experiences desirable for present workers
  6. Need for the training of health education specialists
  7. Health education training of workers
  8. The most critical training needs

AREA IV - RESEARCH AND STUDIES
- Topics for Discussion
  1. Specific practical health education problems
  2. Resources that might be enlisted to conduct studies
  3. Steps that might be taken to initiate studies

MATERIAL TO BE INCLUDED IN THE REPORT TO THE WORLD HEALTH ORGANIZATION
RECAPITULATION OF MATERIAL SUGGESTED FOR SUMMARY REPORT FROM COUNTRIES
SUGGESTED REFERENCES FOR DISCUSSIONS OF HEALTH EDUCATION OF THE PUBLIC

BEST COPY AVAILABLE

BACKGROUND INFORMATION

Following selection of Health Education of the Public as a subject for Technical Discussions in the World Health Assembly, the Tenth Assembly decided that this subject would be discussed during the Twelfth World Health Assembly in 1959.

The selection of this subject emphasizes the existence of a wide gap between scientific research findings in health and their practical application in the daily practices of people. To help bridge this gap so that people, through their own actions, may achieve the level of health that science makes possible, extensive and effective health education is needed. Governments, voluntary agencies, and local communities are exerting considerable effort to strengthen the educational aspects of health programmes that are aimed at developing in people a sense of responsibility for and willingness to do something about their own health betterment. The projected technical discussion of Health Education of the Public provides an opportunity for a review of progress to date, and an exchange of experiences among countries with respect to their progress, problems and possibilities for the future. Much of the success of the Technical Discussions at the World Health Assembly will depend on the extent to which there has been advance preparation through a preliminary review of present programmes in each country at national, provincial and local levels.

The attached "Outline for Discussions" is being made available to assist countries in their review of health education progress, problems and future plans. It is suggested that specific consideration be given to the degree to which people are participating in or co-operating with various specific health services as parts of the overall integrated public health programme.

At the conclusion of the review of progress and in further preparation for the technical discussions, Government health authorities which are willing to contribute to this preparation are requested to make available to the Director-General a report of the discussions in their countries. It would be helpful if the summary report could include specific information about:

1. The most urgent needs for effective health education in the country, and the proposed steps toward meeting these needs with particular reference to:
    - (a) Organization and administration of health education in the country;
    - (b) Training of personnel in health education;
    - (c) Research and studies.
2. Programme activities in the area of:
    - (a) Planning the health education aspects of some programme (see page 9)
    - (b) Evaluating the effectiveness of health education activities (see page 10)

BEST COPY AVAILABLE

The World Health Organization maintains official relationship with a number of international non-governmental organizations. These organizations receive reports and material from the World Health Organization, are invited to send observers to the Health Assembly, and it is hoped that they will participate in technical discussions. The International Union for Health Education of the Public, a non-governmental organization concerned with this subject, is willing to promote discussions on health education of the public in the countries through its member national committees, societies, and associations, and has agreed to forward to the World Health Organization a summary of the preparatory discussions held by its member groups in various countries.

On receipt of the reports from countries, the Director-General will summarize the material and submit it for use at the technical discussion sessions during the Twelfth World Health Assembly in 1959.

OUTLINE FOR DISCUSSION OF HEALTH EDUCATION AND FOR COUNTRY REPORTS TO THE WORLD HEALTH ORGANIZATION

Content of Outline

In this outline are suggested discussion topics on four broad phases of health education of the public. Although these do not constitute all the phases of health education activity, they do encompass some of the more important aspects of health education from an administrator's point of view. The four broad phases included in the guide are:

Planning for health education

2. Organization and administration of health education services
3. Training of personnel in health education
4. Research and studies

Use of Outline

Health education is an inherent part of all health programmes and for most practical results requires the active participation of the people on a well-informed basis. Hence, discussion and review of health education activities designed to secure such action or participation of the people should be made in relation to the specific health problems and programmes in the country and particularly in relation to their integration into the national health services. The programmes that might be discussed are: malaria, venereal and other treponemal diseases, leprosy, environmental sanitation, nutrition, maternal and child health, dental health, vector control, tuberculosis, accident prevention, mental health, chronic diseases, industrial health, zoonosis, etc. It is hoped that the executive heads of health services, the directors (chiefs) of the various health programmes and their staff members, the official health education staff, and leaders of other

BEST COPY AVAILABLE

agencies and organizations concerned with health education will participate in the review of programmes. The discussions should include consideration of the practical needs of the programme, the educational activities now being carried on, their effectiveness, and the steps to be taken. According to the possibilities within the country, such discussions might take place at the national and provincial levels, and particularly within the local areas where health programme activities are in progress.

Although discussion topics are suggested for four broad subjects, it is intended that need within the countries will determine whether all four subjects are considered. In some countries it may be more profitable to concentrate discussion on one or more of the subjects that are of most importance to the programmes within the country.

Values of Health Education

In considering the various health programmes and their health education aspects, particular note should be given to the degree to which the following three closely-related values of health education are being realized:

1. Support for health programmes

As people become informed and convinced of the value of health as a community asset, they contribute, through their own mechanism, the necessary funds and facilities to ensure protective and restorative services.

2. Optimum utilization of health services

People who appreciate the scientific advances in health will make maximum use of the health services society has provided. Mothers will have their young children immunized and seek advisory services for them when they understand the benefits of this service. Adults will avail themselves of curative services early in periods of illness before complications develop, when they comprehend the value of such action.

3. Individual and family daily hygienic habit patterns

People who value health as one of their important goals will learn about the findings of medical science and will do for themselves those things that contribute to satisfactory living, such as balanced and nutritious diet, proper rest and exercise, avoidance of unnecessary hazardous exposure, cleanliness, etc.

AREA I - PLANNING FOR HEALTH EDUCATION

Health education to be effective in achieving the people's support and use of service and willingness to do as much as they can for themselves requires the kind of systematic planning that is usually given the service or operational phase of the specific health programme. Planning for both should proceed concurrently. The logistics of planning for health education, whether it be in the national ministry, the provincial health agency or a local area, are analogous to the planning for the service or operational phases of the programme. They are:

(1) Collecting information essential for planning

(2) Establishment of objectives

(3) Assessing the barriers to health education and how they may be overcome

(4) Appraising apparent and potential resources (organizations, personnel material and funds).

(5) Developing the detailed educational plan of operation (including a definite mechanism for continuous evaluation).

Topics for Discussion

The degree to which the national health programme, including each specific health service, e.g. malaria, nutrition, environmental sanitation, maternal and child health, mental health, etc., has been planned to secure the desirable co-operation and participation of the people. Specifically how adequately have the educational phases been planned with respect to:

1. Collecting information essential for planning:

(a) Vital and social statistics of the disease or condition including age-groups involved, geographical and climatic factors, etc.;

(b) Priorities given to the problem in national health programmes and in relation to other problems by health authorities, public administrators, civic and other groups in the general population;

(c) Health facilities for service, presently available and potentials for the future;

(d) Pertinent information about people, their understanding and misconceptions about the problem, their interest in doing something about the problem, their customs, beliefs, taboos, organizational structure, literacy and educational level, past experiences (successful or unsuccessful) with social programmes, etc.;

(e) Channels of communication among the people - how do they get information - whom do they believe?

(f) Other social programmes now operating in the area - attitude of people towards these programmes - will the goals of the other programmes and the health programme goals supplement one another or be in conflict?

(g) Segments of the population that need to take action - e.g. officials, those with children, those in certain geographic areas, etc.;

(h) Other pertinent information.

BEST COPY AVAILABLE

2. **Establishment of objectives: (define in terms of short-range and long-range goals):**
   (a) Exactly what specific information the public should acquire - what misconceptions will need to be corrected?
   (b) What specific attitudes should be developed?
   (c) What actions of the people are desired either as individuals, families or community groups.
3. Assessing the barriers to health education and how they may be overcome.
   (a) Other interests than health, e.g. people are concerned with roads, agriculture, animal husbandry, schools, etc.
   (b) Communication barriers, e.g. language differences, literacy;
   (c) Geographical isolation, e.g. people far removed from centres of health services, surrounded by mountain or water, etc.;
   (d) Capacity and economic ability of people to take the necessary action, e.g. do they have funds to obtain necessary food to improve nutrition and sanitation, can they afford the necessary drugs, etc?
   (e) Community's attitude toward programmes stimulated or initiated by personnel from outside the community, e.g. do the people see government programmes as a way to take their land, to impose taxes; are they willing to take on the additional responsibility required, etc?
   (f) Others.
4. Appraising apparent and potential resources (organizations, personnel, material and funds).
   (a) Organizations
      (i) The official health ministries, departments and authorities at all levels, directly responsible for health improvement;
      (ii) Other official agencies of government, such as ministries of education, agriculture, social welfare, the army, etc., with whom co-operative activities will enhance the contribution each makes to better living conditions;
      (iii) The voluntary health agencies, national health education committees, etc. with an expressed interest in contributing in one way or another to the health of the people;
      (iv) The professional health organizations: medical societies, nursing associations and other organizations of workers whose membership provides health service to the people;

(v) Other organizations, such as men's clubs, women's organizations, sports clubs, religious groups, etc., whose objectives include improvement in the health of the people.

(b) Personnel

(i) Those in communication with the people; e.g. community or village leaders, school teachers, religious leaders, agricultural extensions workers, community development workers, traders, voluntary agency personnel, etc., who can help to transmit the health information and encourage action;

(ii) Those who will perform the health services or carry out the operational phase of the health programme, with provision of adequate time for their health education activities;

(iii) The people in the community and the contribution they can make in planning and conducting programme.

(c) Material and equipment for the educational phase of the programme

(i) Mass informational resources; newspapers, radio, television, and what proportion of population are reached through these media. Are those reached by mass media the same individuals for which the programme is being planned?

(ii) Educational aids - pamphlets, posters, strip films, exhibits, flannelgraphs, models, etc.;

(iii) Supplies and equipment.

(1) Transport to reach the people

(2) Projection equipment, kind and condition

(3) Paper and other supplies, for production of locally planned visual aids and information materials.

(d) The Funds

(i) Amount available from the official agency;

(ii) Amount that may be contributed by other organizations and agencies;

(iii) Amount that the people are willing and able to make available either as individual gifts, from bazaars, parties or other money raising schemes.

5. Developing the detailed plan of operations. (Only on the basis of the essential facts about the problem, the people, the resources, the possible barriers to the programme, and a clear statement of objectives is it possible to draw up a well-considered educational plan for securing the active participation of the people in any health programme.) The plan will encompass decisions with respect to such questions as:

BEST COPY AVAILABLE

(a) Who are the individuals and groups (community leaders, voluntary organizations, other government agencies, etc.) to be brought into the health programme planning?

(b) What specific information will these people need to participate effectively in the planning?

(c) What methods (individual contact, group meeting, committee sessions, conferences, etc.) will be used to involve these groups in planning?

(d) What information will all the people need and what action by individuals or groups will be essential?

(e) What methods will be used to secure the necessary participation and co-operation of the people, e.g. individual contacts and interviews, group discussions, council community surveys by the people, village self-help projects, home visits by health workers, or volunteers, talks, dramatizations, demonstrations?

(f) What educational aids are needed, e.g. pamphlets, radio broadcasts, news releases, posters, exhibits, models, etc?

(g) How to make sure that all the educational resources (health workers, school personnel, volunteers, other agency personnel) are working in a co-ordinated way.

(h) What priorities will be given to various aspects of the educational effort, e.g. in what geographical area will the work begin? How long will it continue before spreading to other groups? What proportion of effort will be devoted to personal contact? To mass information?

(i) What will be the timing of the educational experience in relation to service, especially campaigns?

(j) What provisions will be made for evaluating progress in the health education component of the programme, including:

    (i) What types of evidence will be used to measure progress or effectiveness?

    (ii) What data will be used to determine the conditions at the initiation of the programme- the baseline?

    (iii) How will the evidence or data collected on progress be analyzed and interpreted?

    (iv) What procedure will be installed for changing of the programme, plan as data show the necessity for such?

    (v) What type of statistical controls will be used that might more closely relate changes to the educational effort?

Material to include in Report to the World Health Organization

1. The value of the country discussions on programme planning for health education will be increased if countries have an opportunity to profit from the experiences of others. To make available some of the practical experiences growing out of the discussions, countries are invited to send in a case report, describing the planning that was done to secure the people's participation in a health programme in a local area. The report might be organized around the details of planning described above; i.e. (1) collecting information essential for planning, (2) establishment of objectives, (3) assessing the barriers to health education and how they may be overcome, (4) appraising apparent and potential resources, and (5) developing the detailed educational plan of operations. It would be helpful if both the successful and unsuccessful elements in the planning were reported, as well as the suspected reasons for the success or failure (see page 3).

2. Report of experience in evaluating the effectiveness of health education activities (see page 3).

The extent to which people have acquired the desired information, have favourable attitudes, and are doing for themselves the things that improve their health, is the final measure of the effectiveness of the educational aspect of any programme, whether it be malaria eradication, zoonosis control, yaws, sanitation, nutrition, or maternal and child health. A number of health ministries have made limited attempts to determine the degree of success of specific educational programmes in terms of response of people to the health education effort. Countries that have evaluated specific educational efforts are asked to submit a detailed report of the programme.

AREA II - ORGANIZATION AND ADMINISTRATION OF HEALTH EDUCATION SERVICE

In order that adequate educational plans and effective procedures to ensure the full participation and co-operation of the people may be a part of each health programme, there is needed in each national Ministry of Health a technical unit for health education. This unit should be able to work with all other bureaus, departments or divisions in the Ministry of Health and with provincial and local workers in developing, planning and guiding educational work, in co-ordinating efforts, and in utilizing all available resources such as material production units, libraries, for the improvement of health practices of the people.

In addition, specific provision for technical services in health education are needed within the framework of health programmes at state (provincial) and other levels of administration, depending on the extent to which these health services already exist or are being planned for the future.

BEST COPY AVAILABLE

Topics for Discussion

1. The objectives, functions and scope of services now performed by the health education unit:

   (a) at the national level

   (b) at the provincial or state level

   (c) in local areas.

2. The essential functions and services that are most needed

   (a) for the immediate future

   (b) within the next five years

   (c) after five years.

3. The number and types of personnel - health education specialists, artists, photographers, writers, editors, projectionists, etc. - needed to perform these services.

   The criteria used to determine the relative number of each category of personnel.

4. Provisions made for attaining and maintaining high quality of staff performance:

   (a) establishment of technical professional standards for employment.

   (b) planned programme of education and recruitment

   (c) adequate remuneration

   (d) continued professional growth

   (e) professional promotion

   (f) technical supervision

   (g) job security

5. Budget needed to carry out the necessary services:

   Responsibility of the technical health education unit in the preparation and justification of budget and in the control of expenditures.

6. The administrative level in the organizational structure of the ministry at which health education should be placed in order to function effectively in co-operative planning with the special programme units of the Ministry:

   The administrative and technical relationship of national health education staff to provincial and local special programme staff.

7. Extent of co-operation and co-ordination with other agencies.

   (a) the activities and resources for health education provided at national, provincial or state and local levels by:

      (i) other official agencies - education, social welfare, and agriculture

      (ii) voluntary agencies, health and civic

   (b) the extent of co-operative planning and programme operation

   (c) ways to effect the closest co-operation and co-ordination.

8. The most urgent needs with respect to the organization and administration of health education services in the country. Some steps that might be taken toward meeting the needs.

AREA III - TRAINING OF PERSONNEL IN HEALTH EDUCATION

Since health education is an integral part of every health activity then it follows that every health worker who is in close contact with the people has potential influence on the knowledge, attitude and behavior of the people with whom he works. It is important, therefore, that these workers have training in health education in order that optimum results may accrue from their efforts.

Workers in closely-related fields also make valuable contributions to health education. The effectiveness of their efforts would be much enhanced if facts about health and principles of health education were included in their training.

Topics for discussion

1. Responsibilities and opportunities for health education of individuals, families and groups by health personnel, i.e. physicians, nurses, midwives, environmental sanitation workers, etc.

2. Present facilities for training of such workers in health education.

3. The preparation needed by each category of personnel to assure that they recognize and make maximum use of their opportunities for health education:

   (a) in their basic academic preparation

   (b) in practice situations or field work.

4. The desirable facilities for such preparation in terms of teaching staff, curriculum content, time devoted to health education, and methods of instructions in:

   (a) institutions providing basic professional preparation of medical, nursing, midwifery and other health personnel

   (b) institutions providing advanced public health training - schools of hygiene or public health.

5. The in-service experiences desirable for present workers in order to maintain or improve their competence.

   (a) experiences that can be provided by the employing agency

   (b) experiences to be provided by educational institutions

   (c) experiences provided in other health agencies.

6. Need for the training of health educational specialists:
    - (a) basic qualifications of such personnel before specialty training.
    - (b) desirable type and length of professional preparation
        - (i) academic
        - (iii) practical experience
    - (c) where such training can be provided.

7. Health education training of workers in fields closely related to health, i.e. social workers, teachers and other educational workers, voluntary agency personnel, agriculturists, etc.
    - (a) extent of their present training
    - (b) assistance that the health ministry and health professions might contribute to the institutions training such personnel:
        - (i) technical health information
        - (ii) some instructional staff
        - (iii) practical field experiences for students.

8. The most critical training needs for health education in your country.

AREA IV - RESEARCH AND STUDIES

Every practical functioning activity needs research upon which to base programmes. The principles of health education as well as its techniques are derived primarily from basic research in the fields of human behaviour, psychology, sociology, anthropology, biological sciences and applied research in the fields of communication and education. Research focused on specific problems of health education will increase the adequacy of programmes and sharpen the effectiveness of health education techniques and methods.

Topics for Discussion

1. Specific practical health education problems on which research is needed for programme development and operation.

2. Resources that might be enlisted to conduct studies and research on these problems:
    - (a) universities
    - (b) governmental agencies
    - (c) foundations
    - (d) voluntary agencies
    - (e) others.

3. Steps that might be taken to initiate studies on some of these problems.

MATERIAL TO BE INCLUDED IN THE REPORT TO THE WORLD HEALTH ORGANIZATION

Research groups and graduate students in universities often are not aware of the practical and theoretical problems encountered by administrators of programmes in their day-to-day operations. In many situations, these research workers would be willing to make careful investigations of some of the problems if they were made known to them. Countries are asked to include in their report to the World Health Organization:

(1) A list of the research problems in health education which seem most important to be studied in the near future

(2) Copies of reports on any research or studies of health education that have been made in the country during the past five years.

RECAPITULATION OF MATERIAL SUGGESTED FOR SUMMARY REPORT FROM COUNTRIES

As indicated in this document (page 3), health administrations willing to participate in the preparation of the technical discussions are requested to make available to the Director-General of the World Health Organization a summary report of the discussions in their country by 31 December 1958. It is understood that the International Union for Health Education of the Public will also send in a resumé of the discussions reported by its member groups.

It would be useful if the summary statement to be sent from each country would include as many of the following items as possible:

(1) The most urgent needs with respect to organization and administration of health education services in the country (see page 12)

(2) The most critical training needs in health education in the country (see page 13)

(3) A case report of planning that was done to secure understanding and participation of the people in a health programme in a local area (see page 10)

(4) Description of experiences in evaluating the effectiveness of health education activities (see page 10)

(5) A list of the research problems in health education most urgently in need of study (see page 14)

(6) Copies of reports on any research on studies in health education completed during the past five years (see page 14)

SUGGESTED REFERENCES FOR DISCUSSIONS OF HEALTH EDUCATION OF THE PUBLIC

Publications of the World Health Organization

Expert Committee Reports:	Technical Report Series No.	s. d	$	Sw. frs.
Environmental Sanitation (English/French)	77	1. 9	0.25	1.00
Health Education of the Public (English/French)	89	1. 9	0.25	1.00
Midwifery Training (English/French)	93	1. 9	0.30	1.00
Nursing (English/French)	24	1. 6	0.20	0.80
Nutrition (Joint FAO/WHO Expert Committee) (English/French/Spanish)	97	3. 6	0.60	2.00
Occupational Health (English/French)	66	1. 6	0.20	0.80
Public Health Administration (English/French)	83	1. 9	0.25	1.00
School Health Services (English/French/Spanish)	30	2.00	0.25	1.00

International Union For Health Education of the Public

	s. d	$	Fr. Fr.
Report of the Third International Conference on Health Education, Rome 1956 - 92 rue St. Denis, Paris I, Volume I and II (French/English)	28. 0	5.00	1700
International Journal of Health Education 3 rue Viollier, Geneva (Quarterly publication in French and English)	20. 0	3.00 12 SW. frs	1200

Documentation of Community Data

Professionally, it is essential that a pattern of continuity be established for community health education activities that will pass along to each succeeding health education staff member knowledge about work done, the social intelligence gained about a community, previous methods used, and progress made within a period of time. The following information is desirable:

A. Historical Aspects of Tribe(s) and Bands Living Within Jurisdiction

Particular highlights that would help to understand and appreciate the background of attitudes toward governmental relationships and social or caste system; recent events (include factional disagreement, development enterprises, and any legislation).

B. Physical Setting

Description in terms of highways, rivers, community, state, and other easily identifiable terms, the boundaries and what lies within them. This would include the size, topography, resources (include water, soil, minerals, etc.), the roads and the conditions (cite example of time to travel versus mileage), and a general comment on the variation in climate during the year.

C. Statistics

Population: an approximation of the following items (site, source and date): number of people (local community district or whatever the division is), the general distribution by age groups.

Vital Statistics: Birth and death rates by years, population growth this century, family-size, major causes of mortality and morbidity.

D. Resources and Reservation Development

Economic conditions including description of major types of employment, range of income, and major shifts of income that have occurred. Tribal, clan, or caste income versus individual; projects undertaken or proposed with regard to industry located near the reservation; development of reservation resources by the tribe alone or in cooperation with the government or other organizations.

The role arts and crafts play in the economic livelihood. Congressional action or bills currently being considered regarding reservation development.

(Excerpt from Indian Health Manual: Chapter 12, Transmittal Notice No. 4, 10-12-59)

E. Community Services

Current Government - central and provincial; report of any signigicant drcpout and what grade.

Teachers, by location and history of relationship.

Missionaries and their major activity (schools, hospitals, clinics, etc.)

Health facilities (public health service, mission, contract, individual, private sources).

Welfare services, tribal, state and country, missionary, foundations and social workers. Statement of where they are located.

Outside contacts: what communities do: where they go and what are the major kinds of services they seek.

Recreational facilities.

F. Political Systems

Governing body of tribe, village, or band.

When and how organized and any political divisions.

Elections.

Specific health resolutions.

Standing committees; pattern of meetings; and major activities (managing community enterprises; law and order; welfare, etc.)

Federal, State, and local governments involved in the jurisdiction.

Associations -- cooperative, agricultural extension, PTA, etc.

G. Family Relationships

General Comments on the extended family living together in one house, as close neighbors, by communities, or other patterns.

The roles of various family members in leadership, economic livelihood, social activities, child rearing, etc.

A history written in an objective (judgmental terms omitted) manner of the growth and change that occurs in the community; descriptions of action programs that are proposed and whether they are accepted or rejected. As much information as in available on the following should be recorded:

Channels through which the community members accept information.

The educational level used in material related to the proposal.

Groups in which the people discuss and show evidence of learning most readily.

The drives which moved the people to action.

The psychological barriers which prevent people from utilizing the knowledge.

The interest shown by the people that may open the way for better community action on health matters.

The following kinds of information about beliefs, attitudes and practices should be recorded:

Health

Native drugs used.

Physical agents used in rituals (baths, massages, sucking, etc.)

When disposing of human waste, are there any precautions to be taken (i.e., always cover; be careful not to be seen; have inaccessible to animals, etc.)

Ceremonials that are related specifically to health.

Related Fields

Forces of nature that relate to health (lightning, animals, evil spirits, etc.)

Gestures and manners used in polite greetings, conversations, in home and meeting places, etc.

Ceremonials, both religious and non-religious.

The concepts of time.

Other concepts and ideas about nature and its relationship to man.

Traditions of the past and the degree to which they are still observed.

Value pattern-material, social, cultural; the esthetic and ethnic patterns.

Leadership patterns.

Formal

Councils and other subdivisions of community organization related to the official governing of the group.

Designated chiefs or leaders of community activities (officials of fairs, ceremonials, etc.)

Officers of organizations.

Informal

Persons who are looked to for decisions; which persons for specific kinds of decisions (grandmother for child rearing, clan chief for decision about land usage, etc.)

The person(s) who carry messages or spread the word on various community affairs.

Person(s) who "moderate" grievances in community disputes.

(R/1164)

III. SANITATION RESOURCE MATERIAL

Basic Health Sanitation - Community Improvements 76

Federal Extension Service, United States Department of Agriculture and USAID Sanitation Series

- Drink Safe Water 79
- How to Wash Your Clothes.......................... 87
- Personal Cleanliness 99
- Wash Dishes Right 111
- Get Rid of Household Pests........................ 119
- Dispose of Wastes 135
- Storing Food At Home.............................. 147
- Prepare and Serve Safe Meals...................... 167
- Care for Your Baby 191

1. Water Supply - dug wells.

The dug well is the most common source of water supply through the world. It can be constructed of simple tools and can be lined with brick or stone which is usually available. Small wells of 3 or 4 feet in diameter are more easily constructed faster with less work than larger wells because there is much less material to be removed. One well 10 feet in diameter will not produce as much water as 3 or 4 wells 3 feet in diameter.

By far, the most usual route for contamination of a well is through the top. The area immediately around the well should be built up higher than the surrounding ground and should drain away from the well. Bathing and the washing of clothing should be done far enough away from the well so that there will be no danger of contaminated water running or splashing back into the well.

Wells are frequently contaminated by the buckets that are used by individuals to draw water from the well. The buckets are contaminated by the hands of the individuals who frequently do not adequately wash after defecation. The installation of a simple rugged hand pump is one of the best safeguards in protecting a dug well. Such pumps can be readily obtained in any country. They should be designed as simply as possible to make for ease of repairs and should be strengthened at points of wear for village use. Spare parts should be provided and someone trained to repair the pump.

2. Water Supply - Surface ponds or streams or irrigation ditches

Water from surface sources is almost always heavily contaminated. If small ponds are constructed to collect water during the rainy season, people should be cautioned not to wash themselves, their clothing or animals in the same pond that supplies the drinking water. Waste water and all contamination should be kept out of a pond used for drinking purposes.

A further improvement would be to construct a well on a small projection of land extending into the pond. Water will percolate from the pond into the well and can be pumped out for use. Such a pond should not be used for bathing. This same method of improvement can be used along side of streams or irrigation ditches to give a natural filtration.

3. Human Waste Disposal

The simplest method of disposing of human waste is the bored-hole latrine. This is simply a small diameter hole with a squat plate at the top. The individual squats over the hole and defecates. The hole should be covered when not in use to prevent flies having access to the material in the hole.

A more elaborate latrine is a water-seal latrine. This can be flushed by hand with a small quantity of water. The latrine pan is made of glazed tile or porcelain or smooth cement and has a trap with a water seal. Such designs are available in most countries. These should be located a reasonable distance from wells or ponds used as a water supply. "Reasonable distance" is at least 25 feet and preferably more than 30.

4. Waste Water

A certain amount of waste water is present from normal household operations, such as washing food, utensils, people, and cattle. This water is generally black and septic and usually runs away in shallow surface ditches. Such water provides excellent places for mosquito propagation. Some of the more important pest mosquitoes propagate in such contaminated water.

A small pond about 3 feet in depth can be used to satisfactorily treat such liquide wastes. The waste can be conducted to the pond in smooth maintained surface ditches or preferably in an underground tile line. Upon reaching the pond, the waste should drop into a tile line which will carry it out to the bottom of the pond near the middle. The upper layers of water in the pond will develop a rich algae growth due to the action of sunlight. This green growth will produce oxygen and will utilize the decomposing waste material as its growth media. The oxygenated top water will discourage the propagation of polluted water mosquitoes, and may support small fish and insect larvae which will also help to keep mosquitoes under control. In the warmer parts of the world such stabilization ponds can take care of the waste water from about 1,000 people in a pond one acre in area.

7. Fly Control

In Asia animal manure is used as fuel and most of the time is handled so as not to create a fly problem. Human body wastes should be kept away from flies so as to prevent fly propagation. Any organic waste where maggots are observed is a source of flies. If such wastes can be buried or kept dry, they will not produce any flies.

8. Resource Materials

Resource materials covering local designs and appropriate materials are available through the Ministry of Health, district or state health office of local sanitation personnel or health officers.

9. Resource People

Sanitarians or health inspectors or similar personnel are available in various health offices at the national, state and local level.

DRINK SAFE WATER

AN AID
TO EXTENSION
AND VILLAGE
WORKERS
IN MANY
COUNTRIES

FES
AID

SANITATION SERIES
NUMBER 1

Federal Extension Service, United States Department of Agriculture, in cooperation with the Agency for International Development, U. S. Department of State

This is for

YOU

The Home Economics Extension Worker

or

Village Worker

The material is presented in a manner which you can use with individuals or groups. In these pages you'll find many ideas to help you teach rural families how to have safe drinking water.

Information in this booklet is based on experiences of extension workers like yourself and health workers in many countries.

BY KATHRYNE SHEEHAN HUGHES

Appreciation is expressed for assistance from: health, sanitation, home economics and information personnel of the Agency for International Development; specialists in the Federal Extension Service, and staff members of other agencies.

Most photographs are from Agency for International Development.

Cover Picture.--Vietnamese children enjoy safe water facilities.

Issued August 1962

ER&T-92 (5-62)

CONTENTS

Page
Drink Safe Water 3
Dangerous Diseases 3
A Safe Water Supply 4
Boil Water 10 Minutes. 4
How to Clean Cloudy Water 5
How to Store Water. 5
Containers for Drinking Water 6
Villagers Can Help Make Water Safe . 6
Demonstrations 7

BEST COPY AVAILABLE

DRINK SAFE WATER

Everyone needs to drink water.

Safe drinking water is important to health.

But in many parts of the world a safe water supply is not available. Rural families get water from--

- wells
- irrigation ditches
- rivers and streams
- rain water collected in containers

Even water that looks clear and clean may carry disease.

DANGEROUS DISEASES

Unclean water may cause diseases such as:

- typhoid fever
- dysentery
- cholera
- infectious hepatitis

It may carry the dangerous guinea worm.

Diarrhea, which is a symptom of dysentery, is often caused from drinking unsafe water.

Water that is not protected from human excreta carries disease and is not safe to drink.

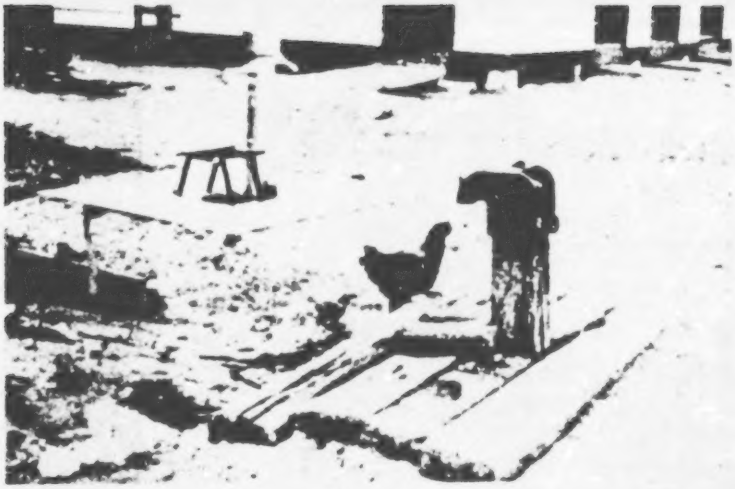
Water from an open well, irrigation ditch, river, or stream is not likely to be safe.

When you drink unsafe water, you endanger your health and your life.

Villagers in Iran happily fill containers from a new, safe, deep-well.

Water from this open well is not safe.

Water from this river is not safe.



A new safe well with cement platform replaces the old unsafe well.

A SAFE WATER SUPPLY

Water is more likely to be safe when it comes from a city water supply or a sanitary well.

Your local health officials usually can tell you how to make a well sanitary.

For a well to be sanitary, it must be on high ground so nothing can drain into it. It should be 35 meters from the latrine and have a tight fitting cover to protect it from human excreta and other waste material.

If you have to use water from an open well, river, irrigation ditch or stream, always boil it.

BOIL WATER 10 MINUTES

This is the best way to make water safe.

Boiling kills disease germs.

Boil the water at least 10 minutes in a clean container.

Let water cool in a clean container.

Cover the container with a clean cloth while water cools.

Then pour water slowly into another clean container.

This may be an earthen jar, tin can, or pitcher.

Pour it back and forth from one container to another. This will add air to the water and improve its taste.

Let it stand for several hours.

Use boiled water to:

- drink
- wash fruits and vegetables to be eaten raw
- mix with powdered milk
- make ice
- brush teeth

When you make tea and coffee, boil unsafe water vigorously for 10 minutes to kill disease germs.

BEST COPY AVAILABLE

HOW TO CLEAN CLOUDY WATER

Filtering or straining will not remove disease germs, but it will make the water cleaner looking.

To make cloudy water look cleaner, you can strain it through a clean cloth.

Put the cloth over the top of a clean container and pour the water through it.

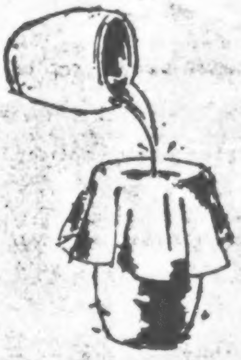
The cloth should be clean each time you strain the water.

You may need to strain the water several times.

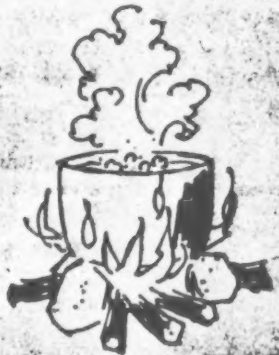
After you strain the water, boil it for 10 minutes to make it safe.

Now the water is ready to drink. You will want to cool it.

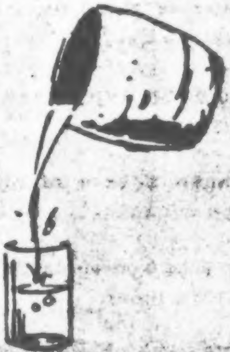
Remember--



1. Filter



2. Boil



3. Cool

HOW TO STORE WATER

Store clean safe water in a clean covered container.

Wash the container in which water is to be stored. Wash it with hot soapy water.

Rinse the container thoroughly with safe water.

When weather allows, dry the container in the sun and fresh air.

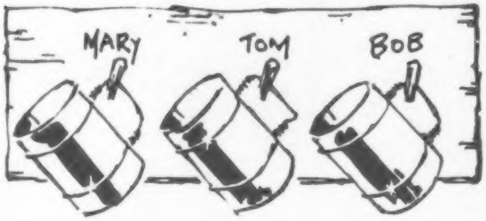
Water may be stored in clean pottery or glass jars, tin cans, or bottles.

Keep water covered so flies and other insects, animals, rodents, and dirt cannot get into it.

It is not hard to solder a faucet to a large can if you have the tools. You will then have a spigot from which to run water instead of using a dipper. A dipper can carry germs into water.

Store large containers of water out of reach of small children. They could make it unsafe.

CONTAINERS FOR DRINKING WATER



Each member of the family should have his own drinking cup.

These should be kept clean and always covered when not in use.

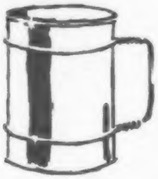
You can make covers of closely woven cloth to keep out insects and dust.

If you have a closed cupboard, this would be fine to store them.

You can make cups of tin cans, gourds, or coconuts, if cups are not available.

If you use a tin can for a drinking cup, be careful of sharp edges. When the cup rusts, throw it away.

HOW TO MAKE A CUP



You need:

1. One tin can.
2. Heavy wire.

Construction:

1. Wrap one end of wire around top of can.
2. Wrap other end of wire around bottom end of can.
3. Leave enough wire between the top and bottom of the can to serve as a handle.

Men in the Philippines working on a safe community well.

VILLAGERS CAN HELP MAKE WATER SAFE

Villagers working as a group can do many things to help get a safe water supply for their village.

They can have a campaign to clear away all rubbish and waste water in the village.

Several families can cooperate to install safe wells for their own use.

They can build latrines and use them.

Latrines should be located away from the source of water supply.

The health authorities will help you get a safe water supply for your village.

DEMONSTRATIONS

Show how to:

1. Filter water if it is cloudy and dirty looking.
2. Boil water to make it safe.
3. Cool boiled water to get air back into it.
4. Clean containers in which water is to be stored.
5. Store water, demonstrating types of containers.
6. Make individual drinking cups from local materials.
7. Put a spigot on a container to make a faucet.
8. Explain what villagers may do to get a safe water supply.

Suggestions to help you give a good demonstration . . . . .

Prepare yourself carefully. Know more about the subject than you plan to teach.

Outline your demonstration step by step and write down exactly what you will say at each step.

Practice your demonstration until you can do every step without hesitation.

Use only equipment and materials available to village families.

Arrive at your meeting place ahead of the women and arrange all materials for your demonstration neatly and in the order you will use them.

Plan for your audience to be seated so that everyone can see and hear easily.

Demonstration on washing containers for storing drinking water- - Liberia

Use visual aids in your demonstration if they will help to make your presentation clearer.

Ask one of the women to assist you. This helps develop leadership.

Evaluate your own demonstration.

(1) Did the women learn how to do what you demonstrated?

(2) What evidence was given that the women plan to carry out this practice in their homes?

(3) How could this demonstration be be improved?

WHEN YOU DRINK WATER...

IS IT SAFE?

SAFE WATER IS ESSENTIAL TO HEALTH

This well protects the people's health in Korea.

BOOKS TO HELP YOU

- Drinking Water Disinfection--Public Health Service Publication 387, U.S. Department of Health, Education, and Welfare, Washington, D.C.
- Drinking Water--National Media Production Center, Potenciana Intramuros, Manila, Phillipines.
- Safe Drinking Water--U.S. Department of Interior, Bureau of Indian Affairs, Branch of Education, Washington, D.C.

The following were also consulted for this publication:

The Fourth H -- Unit I, Sanitation, by E. L. Blanchard, Extension Service, New Mexico College of Agriculture and Mechanic Arts, State College, New Mexico.

A Junior Health Reader--by E. P. W. Marriott, South Pacific Commission.

Emergency Mass Feeding--Quartermaster School, Fort Lee, Virginia.

HOW TO
WASH YOUR CLOTHES

AN AID TO EXTENSION AND VILLAGE WORKERS IN MANY COUNTRIES

FES AID

SANITATION SERIES NUMBER 2

Federal Extension Service, United States Department of Agriculture, in cooperation with the Agency for International Development, U. S. Department of State

This is for

YOU

The Home Economics Extension Worker

or

Village Worker

The material is presented in a manner which you can use with individuals or groups. In these pages you'll find many ideas to help you teach rural families how to wash clothes.

Information in this booklet is based on experiences of extension workers like yourself and health workers in many countries.

BY KATHRYNE SHEEHAN HUGHES

Appreciation is expressed for assistance from health, sanitation, home economics, and information personnel of the Agency for International Development; specialists in the Federal Extension Service and other agencies.

Most photographs are courtesy Agency for International Development.

Cover Picture -- A woman in Brazil learns a better way to wash clothes.

Issued August 1962

CONTENTS

Page

Supplies 3
Equipment. 5
Washing 5
Ironing . . . .
Cautions 7
Removing Spots and Stains 8
When There Is Sickness. 9
Storing Your Clothes. 9
Demonstrations 10
Books to Help You 12

ER& T - 122 (6-62)

These women in Ecuador now wash their clothes this way. They once washed in streams and rivers.

HOW TO WASH CLOTHES

Everyone likes to feel fresh and clean.

Fresh clean clothes add to your social acceptance.

Clean clothes are important to health.

Dirty clothes may carry disease germs.

These germs are so small you cannot see them. They spread from one person to another.

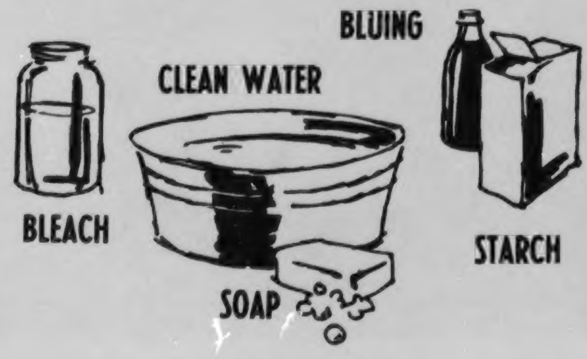
There are different ways to force dirt out of clothes.

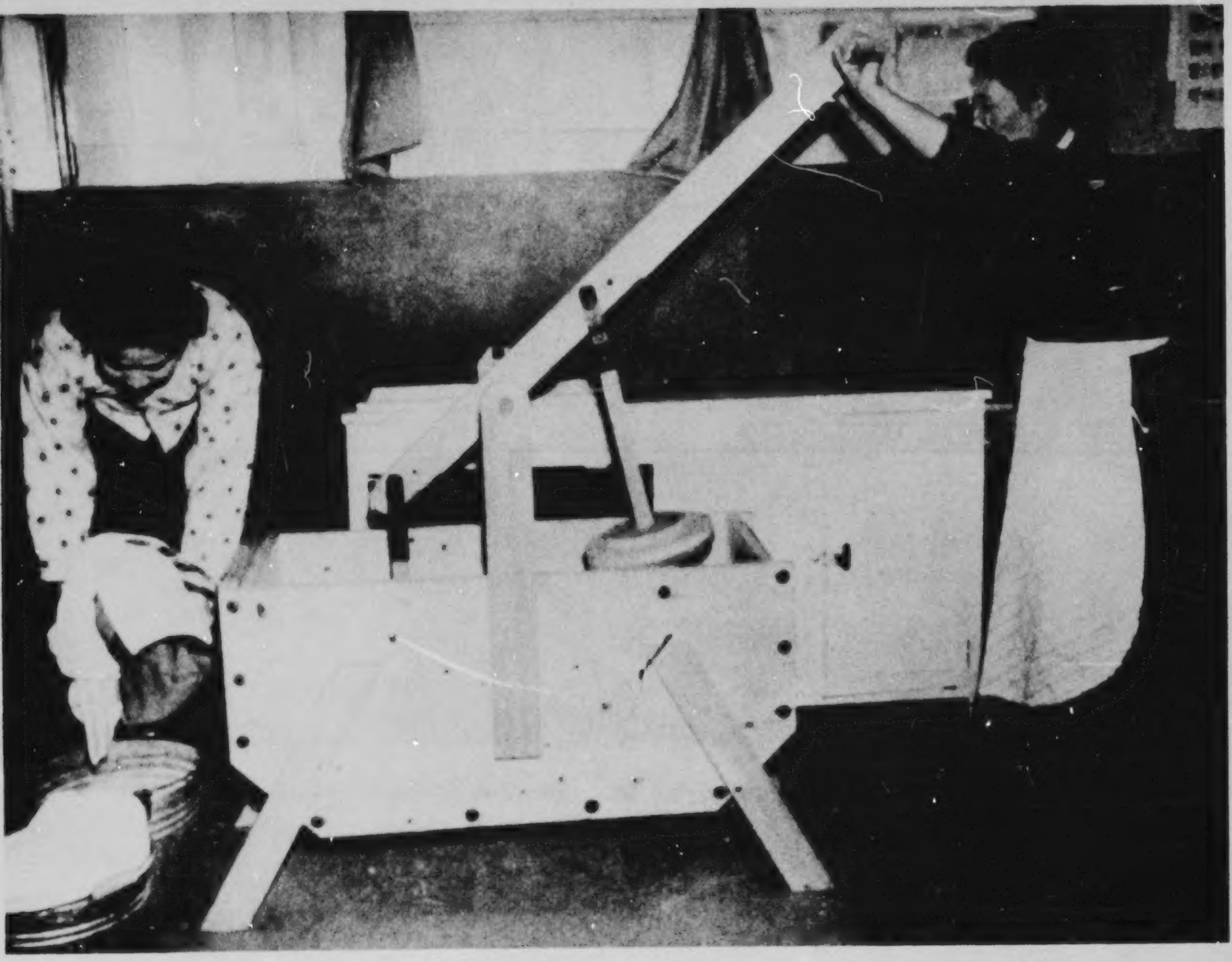
Clothes are washed by...

- rubbing on a washboard
- rubbing between the hands
- using a plunger
- using a washing machine

A machine or a plunger is easier work and is easier on clothes.

SUPPLIES





THIS WAY--Korean women do their washing in a wooden washing machine.

NOT THIS WAY--Washing clothes in a river is a great health hazard.

EQUIPMENT

Two tubs--one for washing, one for rinsing.

When available, washing machines are used. These may be homemade or purchased.

- Washboard
- Suction plunger
- Basket
- Clothesline
- Clothespins

WASHING

Sort clothes into groups for washing:

- white cottons and linen
- colored cottons
- fine fabrics - silk, etc.

Mend rips and tears.

Remove any trimmings or buttons that may be spoiled by washing.

Remove spots and stains, such as blood and rust, before washing.

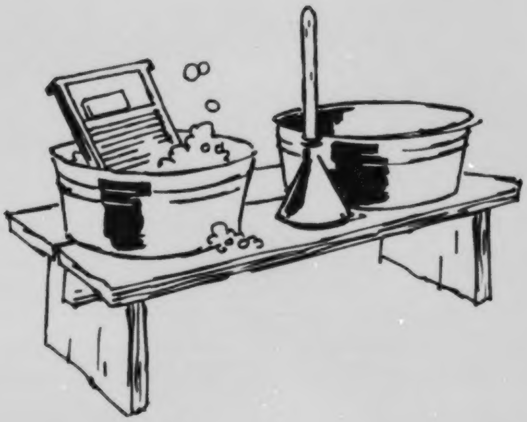
Clothes should be washed in some kind of container--a tub, washing machine, basin, or pail.

The water should be clean. If water is not clean, your clothes will not be clean after washing.

Water in rivers, streams, swamps and ditches usually is not clean. This kind of water often carries liver flukes and disease germs which may make you and your family sick.

If you use a plunger or washboard, this plan will help you . . .

Place two tubs on a firm bench. The bench should be high enough for using the washboard and plunger easily without much stooping.



Tubs should be deep enough to save soapsuds and big enough to use a washboard. The tub can be a wooden barrel, oil drum, or of other local material.

Fill the tubs about one-half full of water.

If possible, put hot water in one tub for washing; the other tub is for rinsing.

Hot water and liquid soap remove dirt better than cold water.

Add the soap to the tub for washing.

This may be bar, liquid or powdered soap.

If you use bar soap, cut it up when you put it into the hot water.

To make liquid soap from bar soap:

- shave the cake soap into thin slices
- place in a container
- cover with warm water
- stir until soap is dissolved

Liquid soap could be prepared the day before.

Use the plunger to help dissolve the soap and form suds.

Add the clothes--the less soiled white clothes first--wash and remove them.

Next, wash the more soiled white clothes.

Last, wash the colored clothes.

For each tub of clothes, force plunger up and down.

The suction plunger helps soften and remove dirt from clothes. By lifting the plunger up and down, the soapsuds are sucked through the clothes and the dirt comes out.

Women learn to use the plunger to wash clothes.

The washboard is used to remove stubborn spots like grease.

Do not put in too many clothes at a time. Water must be able to move through the clothes.

Water is dirty when the soapsuds do not stand firm and white. Change the water when it is dirty.

Rinse clothes until free of soap. Two rinses give best results. The plunger may be used for rinsing also.

Bluing is added to the rinse water.

It helps to take away the yellow color in white cotton and linen clothes.

Too much bluing will give your clothing a gray or blue color.

You do not need bluing each time you wash.

Some soaps have bluing in them, so you do not need to add more.

Starch is used last. Use the suction plunger to distribute starch evenly through the clothes.

Put the clothes in a basket or a pan. Now you are ready for drying the clothes.

Hang up the clothes to dry.

If you use the grass, a fence or a wall for drying clothes, be sure the place is clean.

If you use a clothesline try to have a rust-proof wire, or use a cord. Wipe off the clothesline with a clean, damp cloth. Have a part of the clothesline in the shade for colored clothes. Bright sunshine may fade them.

Bolivian woman ironing pair of trousers.

IRONING

Iron the clothes that need ironing.

Ironing kills some germs and makes storing easier.

Clothes look nicer when ironed.

You may iron on an ironing board, table, or bench.

The place for ironing should be well padded.

The iron may be heated by charcoal, electricity, or on the stove.

CAUTIONS

Bleach may be used on white cotton clothes.

Follow the instructions on the bottle or package on how to use the bleach and what to use it on.

Be sure to rinse all the bleach from the clothes.

Sunshine is a fine natural bleach.

Also, sunshine gives a fresh, clean smell to clothes.

Some materials, such as silk and wool, need careful handling.

- Squeeze them gently in soapy water and then rinse.
- Avoid rubbing and wringing. Otherwise the threads may break, or wool material may become matted.

Beating clothes with a paddle or on a rock is hard on fibers. It damages buttons, hooks and fastenings.

REMOVING SPOTS AND STAINS

Most stains can be removed.

Do not throw away stained clothes.

REMEMBER - -

- Treat the stain while it is fresh.
- Know the kind of cloth.
- Use the right remover for each cloth.
- Test for color change on a sample.
- Avoid hot water if you do not know what the stain is. Hot water sets many stains.
- Work carefully and quickly.
- Use clean cloths to remove stains.

IRON RUST

If rust is from fresh rusty water, quickly wash it out.

Add lemon juice with warm water and soak.

Spread in the sun to bleach.

Next, wash in soap and water.

Repeat until stain is gone.

TAR, ASPHALT, ROAD OIL

Rub the stain with lard or vaseline.

Then sponge it with kerosene. Keep away from fire! Use outdoors. Don't breathe the vapor.

Last, wash it with soap and water.

OIL AND GREASE

Rub soap into the spot and wash in warm water.

BLOOD

For fresh blood, soak and rinse the spot in cold water.

If an old stain, soak in hot water for several hours.

Wash with soap and water.

If traces of the stain remain, bleach in the sun.

Be sure stained portion does not get dry while bleaching.

Finally, rinse with cold water.

PERSPIRATION

Use soap and warm water.

PAINT

If the paint is fresh, rub with turpentine. Wash with plenty of soap.

If paint has dried, soften with oil, lard or vaseline. Soap well.

If traces remain, rub with kerosene or turpentine, keeping away from fire. Don't breathe the fumes.

COFFEE AND TEA

Pour boiling water on the stain from a height of 2 or 3 feet.

Wash in warm soapy water.

If stain still remains, rub with lemon juice and soap.

Bleach under the sun.

In case colors will fade, use tepid water.

When There is Sickness

- WHEN THERE IS SICKNESS IN THE HOME, BOIL THE CLOTHES.
- BOILING HELPS DESTROY DISEASE GERMS.
- BOILING BRINGS OUT THE DIRT, HELPS KEEP CLOTHES WHITE.
- CHLORINE BLEACH ALSO HELPS DESTROY DISEASE GERMS.

STORING

Your Clothes

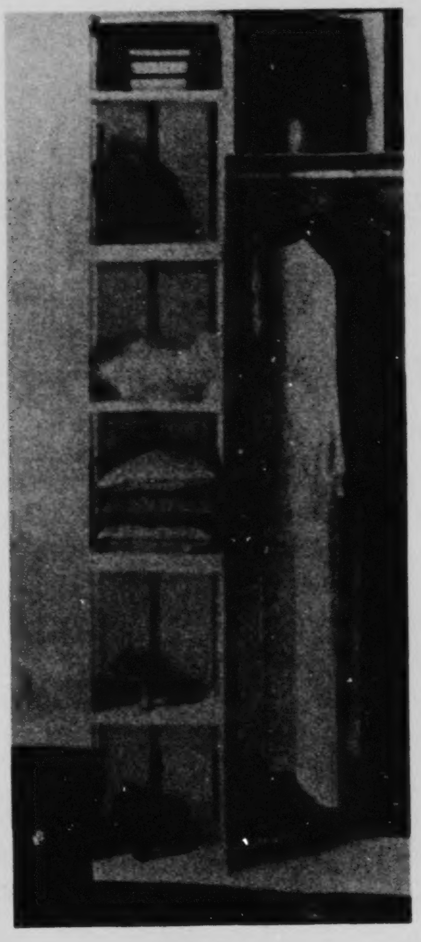
Keep your clean clothes in a clean dry place.

You can easily make storage space for clothes.

When you store clothes carefully, they will last longer.

Woolen clothes should be stored carefully in summer.

Store woolen clothes in a tight fitting wooden box and use moth balls or DDT to keep out moths and other insects.



(Right)--Fruit boxes were used to make this storage closet for clothes.

DEMONSTRATIONS

Show:

- Equipment for washing clothes
- How to use the plunger
- How to wash clothes - cottons, linens, wool, silks
- How to make liquid soap
- How to starch clothes
- How to remove stains
- How to iron
- How to mend clothes before washing
- How to make washboards
- How to store clothes after laundering

Suggestions to Help You Give a Good Demonstration

Prepare yourself carefully.

Know more about the subject than you plan to teach.

Outline your demonstration step by step and write down exactly what you will say at each step.

Practice your demonstration until you can do every step without hesitation.

Use only equipment and materials available to the families concerned.

Arrive at your meeting place ahead of the women and arrange all materials for your demonstration neatly and in the order you will use them.

Plan for your audience to be seated so that everyone can see and hear.

Ask one of the women to assist you. This helps to develop leadership.

Evaluate your own demonstration.

(1) Did the women learn how to do what you demonstrated?

(2) What evidence was given that the women plan to carry out this practice in their homes?

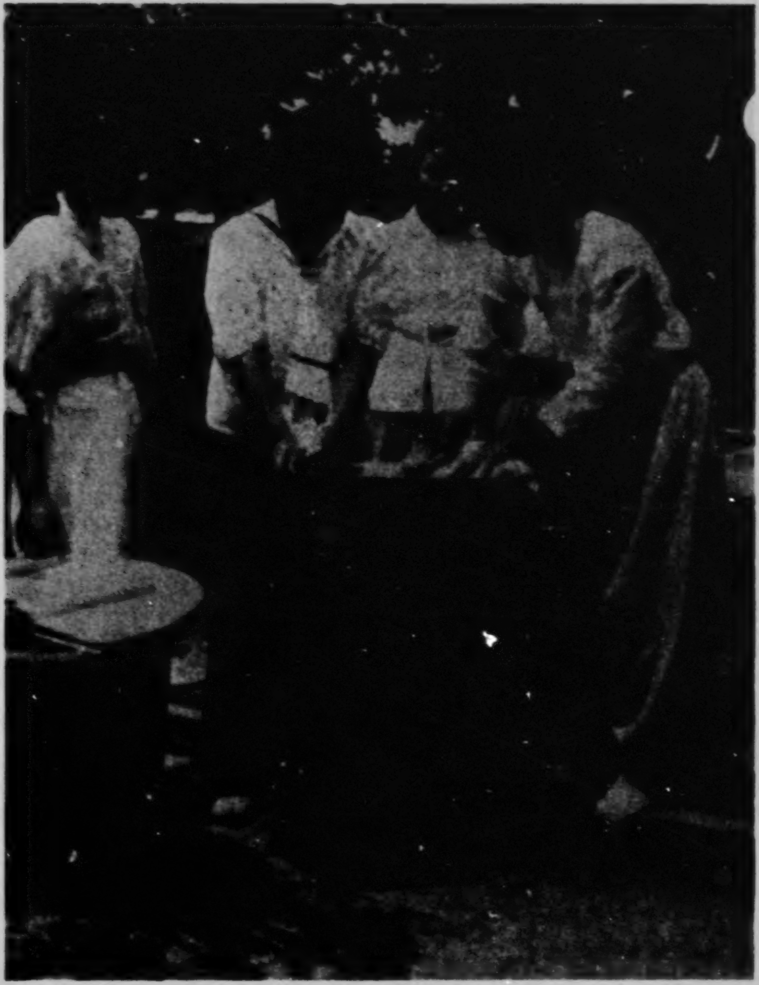
(3) How could this demonstration be improved?

(Opposite)--A demonstration on how to use a washboard. Turkey.

Makes you feel fresh and clean

Helps you avoid disease

Makes clothes last longer

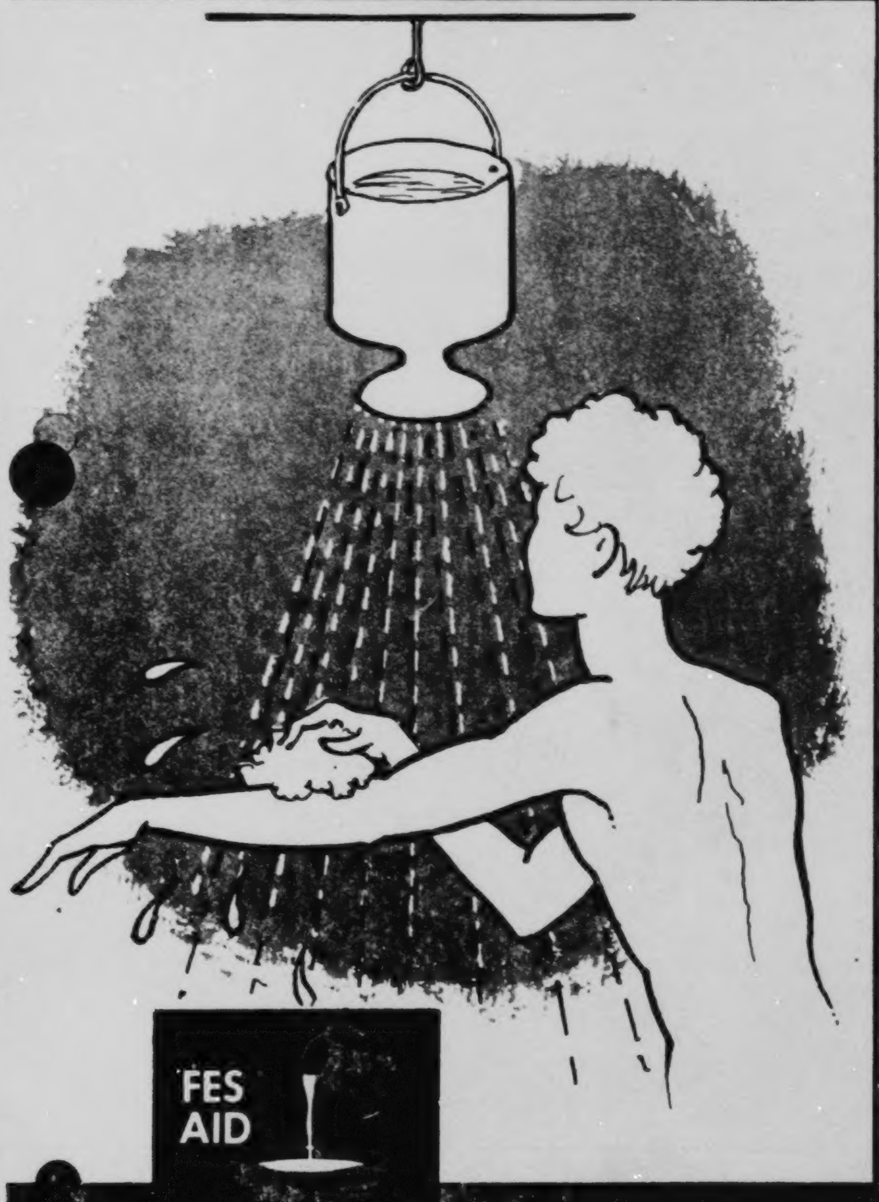


Women in Korea learn how to launder work clothes they made.

BOOKS TO HELP YOU

- Remove Spots and Stains, and Washing Clothes with the Plunger, Office of Agricultural Information, DANR, Manila, Phillipines.
- How Do You Wash the Clothes -- Department of Education, Bureau of Public Schools, Manila, Phillipines.
- Housing and Home Improvement in the Caribbean, by Elsa Haglund. Food and Agriculture Organization of the United Nations and the Caribbean Commission, 1958.
- Homemaking Around the World -- Agency for International Development. Washington 25, D.C.
- Better Family Living -- Dr. Hobanna Bayer, Nutrition Division, FAO.
- Textbook of Home Science -- Rajammal P. Devadas, Indian Council of Agricultural Research, New Delhi, India.

PERSONAL CLEANLINESS



AN AID TO EXTENSION AND VILLAGE WORKERS IN MANY COUNTRIES

FES AID

SANITATION SERIES
NUMBER 3

CONTENTS

Page

KEEP YOUR BODY CLEAN 3

- Bathing 3
- Care of Your Teeth 3
- Care of Your Hair 4
- Hands and Nails 5
- Care of Your Feet 5

PERSONAL TOWELS 6

KEEP YOUR CLOTHING CLEAN. . . 6

LIVE IN A CLEAN PLACE. 7

SICKNESS IN THE HOME. 8

- Care of Small Cuts 8

MENSTRUATION 9

- How to Make a Sanitary Belt and Napkin 9

DEMONSTRATIONS 11

BEST COPY AVAILABLE

PERSONAL CLEANLINESS

Many things help to make people like you, such as how you look, how well you are, whether you are happy. To look your best, to feel well and to be happy you must:

- keep your body clean
- keep your clothing clean
- eat clean food
- drink safe water
- live in a clean place

When we are clean more people will like us and like to be with us.

This helps us feel confident--it makes us happier.

KEEP YOUR BODY CLEAN

Bathing

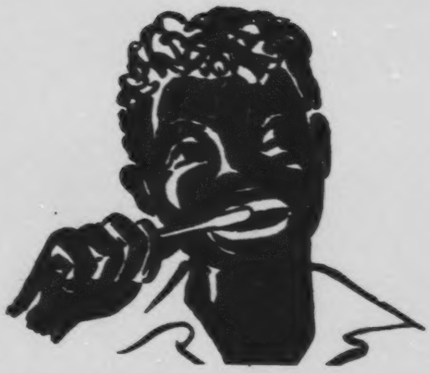
Bathe your body with soap and water, every day if possible.

Bathing with soap and water removes dust, dirt, perspiration and other waste matter from the skin. Bathing also helps prevent body lice.

Taking cold baths during hot weather helps you prevent prickly heat, and other skin infections and rashes.

Bathing often and using salt and soda or other deodorants helps to prevent body odors.

CARE OF YOUR TEETH



Brush your teeth:

when you get up in the morning
after each meal
before going to bed

Water for brushing teeth should be clean and safe. If you are not sure water is safe, boil it for 10 minutes.

If you cannot brush your teeth after meals, rinse your mouth with clean water.

Food sticks to teeth. Food left on teeth makes them decay.

Use a commercial or homemade toothbrush for brusing your teeth. You can make a toothbrush from a twig of wood.

To make a toothbrush:

> Select a short sturdy tree twig. Be sure the wood is not poisonous. A twig of soft wood is best. Peel off about one inch of bark at one end. Shred, pound or chew this peeled end until you have a brush.

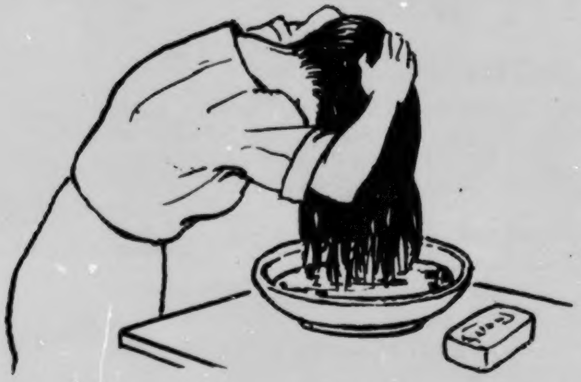
Use salt and soda, clean charcoal, or commercial toothpaste for brushing.

Do not use ash, cinder, brick dust, sand or other materials that may scratch the teeth or gums. Do not scratch your teeth with a needle or pin.

Wash your toothbrush in water that has been boiled if the water is not safe.

Always use your own toothbrush.

CARE OF YOUR HAIR



Wash your hair every ten days or two weeks. Wash it once a week if it's oily.

Use clean safe water to wash your hair. If you are not sure the water is free from disease germs, boil it 10 minutes.

When you wash your hair:

- wet the hair with clean water.
- add soap and rub it into the hair.
- rinse the hair with clean water.
- wash the hair again with soap and clean water.
- rinse the hair two times with clean water.

Use lemon juice in the rinse water, if available. This helps to remove the soap. Soap and fresh lemon juice give your hair a fresh perfume scent.

If you have long hair, dry it well in the sun, if possible, right after washing. Short hair is easier to keep clean.

Comb and brush your hair every day. Use only your own comb and brush. Wash brushes and comb in warm soapy water every time you wash your hair.

Head Lice

Keep your hair free from lice and nits. Examine your hair often to see if you have lice or nits. You can feel them because they bite you to drink your blood. This makes the place itchy. You are always scratching your hair.

You can see the lice eggs stuck on hair. They are very small white lumps.

When one person gets lice in the hair, all members of a family may get them. Examine everyone's hair.

After each washing of hair, rinse with a mild solution of vinegar to remove nits.

Washing your hair with soap and water often helps to avoid lice.

Sprinkle insecticide powder lightly into the hair. The powder should not be washed out for 10 days. Thus young lice are killed as they hatch from eggs.

Use insecticides with care. They are poisonous to people and animals. Keep them out of reach of children.

The sanitarian from your health department or other officials can tell you what insecticides to use.

Some people wash their hair the day after treatment. Then 8 or 10 days later, they dust the hair again with the powder.

Sometimes kerosene is used to remove head lice from the hair. Use kerosene sparingly to avoid burning the scalp. The hair should then be washed with soap and water.

Kerosene is not as effective as DDT. Two or more treatments with kerosene are needed. Kerosene is not recommended if insecticides are available.

HANDS AND NAILS

Keep your hands clean. Washing your hands often helps avoid spreading disease germs.

Wash them before you:

start to prepare food
eat
set the table
handle food, dishes or other eating utensils
wipe the eyes, even when you use a cloth
handle a sick person
handle the baby

Wash them after you:

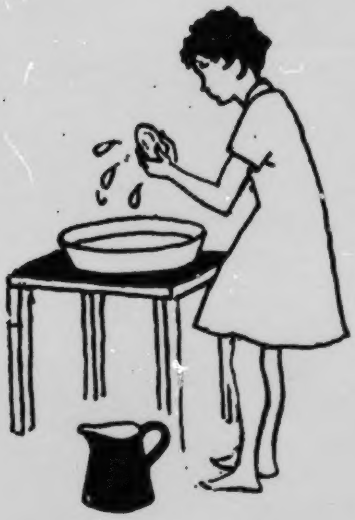
go to the latrine
use a handkerchief
handle animals
clean animal pens
work in gardens
cough and sneeze
handle a sick person
handle a baby

Washing Your Hands

Get the habit of washing your hands often. This habit will help avoid the spread of disease germs.

Hands must be washed in clean safe water. If you are not sure the water is safe, boil it for 10 minutes to kill disease germs.

Wash your hands under clean running water when possible. If you wash your hands in a pan or bowl, be sure the pan or bowl is clean.



Clean water must be used to wash each person's hands. Hands may be washed in as little as a cupful of water.

- Wet your hands
- Rub on soap
- Rinse
- Dry them

If there is no towel, shake hands dry.

Dirt that gathers under finger nails can carry disease germs. Cut your nails short. Clean them with a nail file or pointed stick.

Care of Your Feet

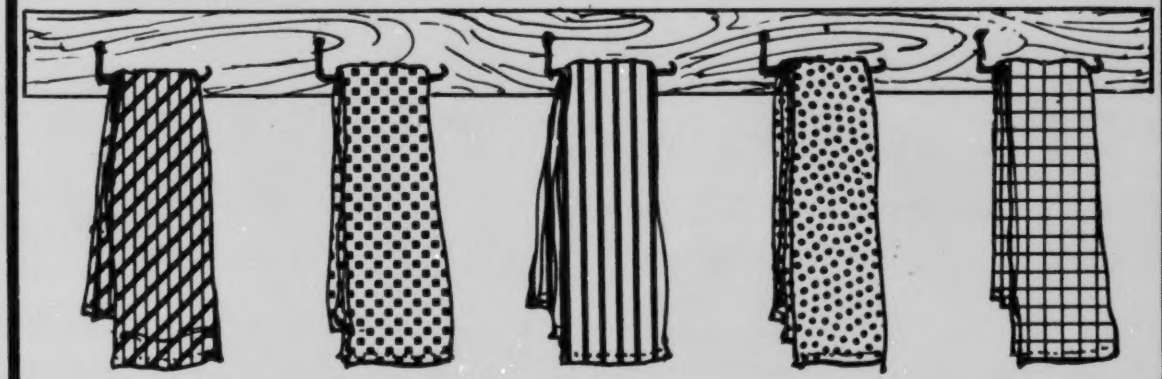
Take good care of your feet. Feet perspire. You may want to wash them more than once a day.

After washing your feet dry carefully between the toes. Keeping your feet clean and dry will help to keep away disease germs.

Wear shoes to prevent hookworm, tetanus and other infections.

PERSONAL TOWELS

- EVERYONE SHOULD HAVE HIS OWN TOWEL.
- EACH PERSON'S TOWEL SHOULD BE HUNG IN A SEPARATE PLACE.
- TOWELS MUST BE KEPT CLEAN. WASH THEM OFTEN.
- WHEN POSSIBLE, HANG TOWELS IN THE SUN TO DRY.



KEEP YOUR CLOTHING CLEAN

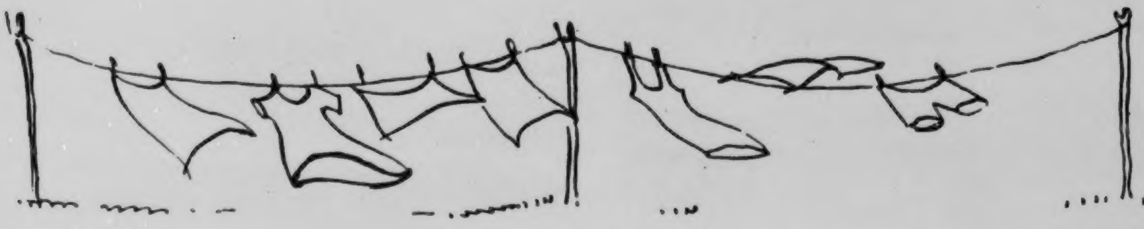
To look your best, to feel well, and to be happy you must:

wear clean clothes in the daytime
sleep in clean clothes
sleep in clean beds

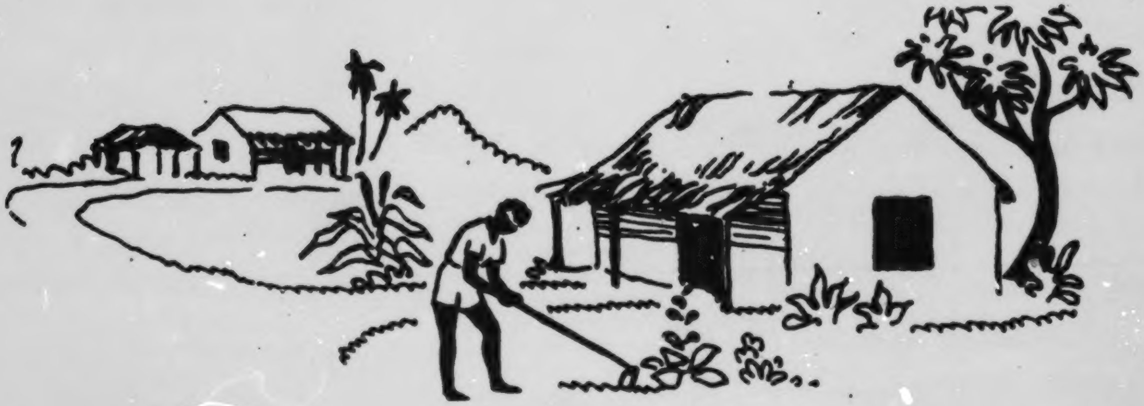
Clean clothes on clean bodies is a good rule to follow.

Dirty clothes can carry disease germs and help to attract body lice. Don't wear another person's dirty clothes.

Wash clothes often. Put them in the sun to dry when possible. Store clothes in a clean, dry place.



LIVE IN A CLEAN PLACE



It's easier to keep yourself clean if you keep your house and surroundings clean.

Keep your house and yard clean. When your home and yard are clean, you are protecting your own and your family's health. Disease germs do not like a clean place.

Sweep, dust and scrub your house often. Keep windows, walls, floors and furniture clean.

Prepare food in a clean place. Cook food in clean pots and pans. Eat from clean dishes. Use your own dishes. Do not eat from another person's dish or with another person's utensils.

Each person should have his own glass or cup for drinking water. Water should be stored in clean containers. Drink clean safe water. If water is not safe, boil it 10 minutes.

Empty all body wastes--human excreta, urine, vomit and sputum into a sanitary toilet, latrine or hole in the ground. Cover the hole to keep out flies and other insects and animals. If a pail or can is used for body wastes, it should be emptied every day into the latrine or hole. Wash the pail or can each day with hot water and soap. Keep the pail or can covered when not in use.

Never throw waste water out the window or door into the yard. A damp yard and pools of water around the house may:

- spread disease germs
- attract flies, mosquitoes and other insects
- cause bad odors

Do not let garbage pile up in your house or in the yard. Keep garbage in tight covered, water-proof containers. Then, burn or bury it.

Burn or bury trash. Don't let it pile up in and around your home.

Have plenty of fresh air when sleeping. Too many people sleeping in the same room makes the air stale. Sleep in a clean bed. Wash sheets, blankets, quilts and mattress covers often. Use washable materials for as much of your bedding as possible.

SICKNESS IN THE HOME

Here are suggestions for caring for a person sick in bed in the home:

- Serve clean food
- Serve water from a safe supply
- Bathe the patient at least once a day in safe water
- Wash your hands in safe water before and after caring for the sick.
- Keep the patient away from other members of the family if the illness is contagious.
- Keep all medicine in a clean place out of the reach of children.

Boil all dishes that are used by the sick.

Keep them separate from the dishes the rest of the family eat from.

When possible, use large clean heavy leaves or other disposable dishes. Burn or bury them after each meal.

The room where the sick person is should be kept tidy and clean.

Keep plenty of fresh air in the room.

Boil the bedding--including the mattress cover and clothing of the sick when washing. If fuel is scarce for boiling water, you can use a disinfectant in the wash water.

Care of Small Cuts

If you have a cut or scratch, wash it with soap and safe water.

Cover it with a bandage.

Keep sores covered so that flies and dirt cannot carry germs to them.

If sores or ulcers appear, show them to the doctor.

MENSTRUATION

MENSTRUATION is a normal function.

The discharge during this period is a waste product.

This waste is not known to carry disease germs like human excreta and sputum.

Home agents, in many countries, have given aid to women and girls about the care of their bodies during menstruation.

They have taught them how to make sanitary belts, napkins and towels.

The sanitary napkins or towels or cotton absorb the menstrual flow.

Care of Sanitary Pads and Towels

Don't leave soiled pads and towels lying around.

They give a bad odor
They serve as a place for disease germs to grow.

If the filling used for pads is plentiful or cannot be washed, wrap it in large leaves or paper and burn or bury it.

The belt, pad cover and towel can be washed.

Rinse the pad cover and towels in cold water as soon as removed.

Place them in a covered pail of cold water.

After they have soaked for awhile, wash with soap and clean water.

Dry in the sun.

Care Of Your Body During Menstruation

Take warm baths during this period.

Avoid bathing in a tank, tub or stream.

Take a sponge bath from a basin, or take a shower.

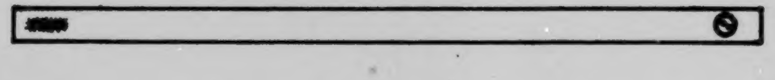
Change the napkin often. This will help to avoid having a bad odor.

How to Make a Sanitary Belt and Napkin

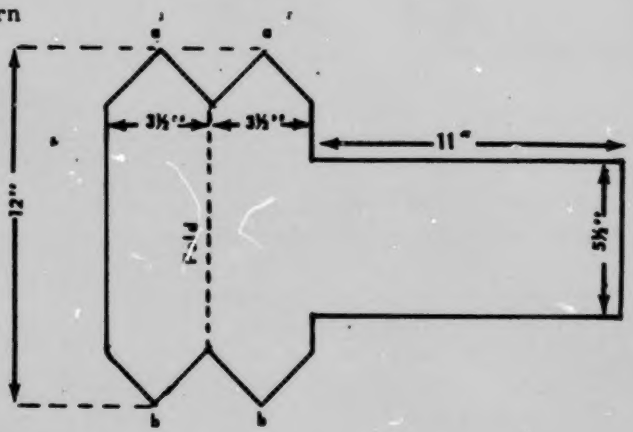
For a belt and pad cover, use available cloth that is soft and clean. The filling for the pad should be soft and absorbent. Some women use a sanitary towel made of clean cloth, instead of the pad with filling.

The size of the napkin and belt depends on the size of the person.

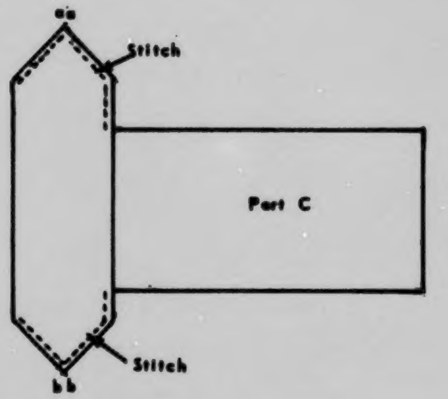
1. Make a simple 2-inch wide belt. Fold it and tie with strings at the waist. Or fasten with a button and button hole.



2. For the pad, you can make a pattern like this...

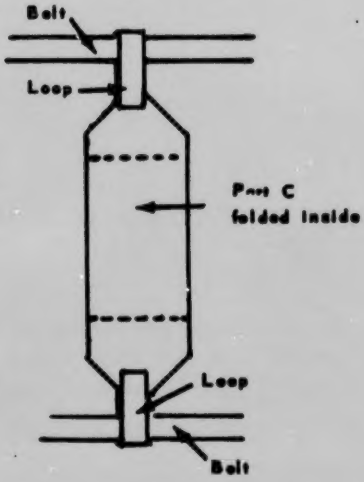

a
a
3½"
3½"
11"
12"
Fold
5½"
b
b

3. Put pattern on soft cloth and cut around it. Fold the cloth over so points a and a meet, and b and b meet. Sew along the dotted lines. It will look like this....


a a
Stitch
Part C
Stitch
b b

4. Fold part c to fit inside the pad cover. Part c could be made longer for a thicker pad. Or you can add soft cotton, moss, kapok or other soft absorbent material.

5. Sew loops on the ends. Make the loops about an inch wide. The belt can be pulled through these loops. It will look like this when finished.


Belt
Loop
Part C
folded inside
Loop
Belt

NOTE: Make two belts and pad covers so you can change and wash them during the menstrual period.

DEMONSTRATIONS

Show how to:

Make Toothbrushes of Local Material

Make a Toothbrush Rack

Make Tooth Powders

Wash Hair

Remove Lice and Nits

Wash Hands

Make a Sanitary Belt

Wash Clothes--Make Storage for Clothes

Care for the Sick

Suggestions to Help You Give a Good Demonstration

Prepare yourself carefully.

Know more about the subject than you plan to teach.

Outline your demonstration step by step and write down exactly what you will say at each step.

Practice your demonstration until you can do every step without hesitation.

Use only equipment and materials available to the families concerned.

Arrive at your meeting place ahead of the women and arrange all materials for your demonstration neatly and in the order you will use them.

Plan for your audience to be seated so that everyone can see and hear.

Ask one of the women to assist you. This helps to develop leadership.

Evaluate your own demonstration.

(1) Did the women learn how to do what you demonstrated?

(2) What evidence was given that the women plan to carry out this practice in their homes?

(3) How could this demonstration be improved?

REMEMBER:

- Keep Your Body and Clothes Clean
- Eat Clean Food
- Drink Safe Water
- Live in a Clean Place

Village nurses in Taiwan teach personal cleanliness for better health.

BOOKS TO HELP YOU

- A First Hygiene Book - By Shelia Jamison - produced by South Pacific Commission Literature Bureau--New Hebrides--April, 1955.
- Better Family Living - Dr. J. Hohanna Bayer--Consultant of Nutrition Division--FAO.
- Homemaking Around The World - Agency for International Development--Washington 25, D.C.
- Housing and Home Improvement in the Caribbean - by Elsa Haglung--Food and Agriculture Organization of the United Nations and the Caribbean Commission - 1958.
- Textbook of Home Science - Rajammal P. Devadas--Indian Council of Agricultural Research, New Delhi, India.

WASH DISHES RIGHT

AN AID
TO EXTENSION
AND VILLAGE
WORKERS
IN MANY
COUNTRIES

FES
AID

SANITATION SERIES
NUMBER 4

Federal Extension Service, United States Department of Agriculture, in cooperation with the Agency for International Development, U. S. Department of State

This is for

YOU

The Home Economics Extension Worker

or

Village Worker

The information in this booklet is based on experiences of extension workers and health workers in many countries. You'll find ideas to help you teach families how to wash dishes.

Use this material in any way best suited to your needs.

BY KATHRYNE SHEEHAN HUGHES

Appreciation is expressed for assistance from: health, sanitation, home economics and information personnel of the Agency for International Development; specialists in the Federal Extension Service, and staff members of other agencies.

Cover Picture.--In Brazil two 4-S Club members demonstrate how to wash dishes correctly.

Issued April 1963

ER&T - 234 (12-62)

Contents

Page

WHY WE WASH DISHES. 3

WHAT YOU NEED 3

STEPS IN WASHING DISHES. 3

1. Wash Your Hands 3
2. Get the Dishes Ready 3
3. Wash the Dishes 3
4. Rinse 4
5. Dry the Dishes 4
6. Storing Dishes 4
7. Clean up Afterward 4

CARE OF DISH TOWELS AND CLOTHS. 5

SCOURING 5

SPECIAL CLEANING PROBLEMS . . 5

BABY'S DISHES. 6

DISHES FOR THE SICK. 6

DEMONSTRATIONS 7

WASH DISHES RIGHT

WHY WE WASH DISHES

Clean dishes help protect your health. Dirty dishes may carry disease germs.

Food tastes better from dishes that are not greasy and do not have stale food sticking to them.

You enjoy your food more from dishes that are clean and dry.

WHAT YOU NEED

Two pans on a table with room to stack dishes on each side. One is for washing the other for rinsing.

Plenty of hot water.

A pan or a rack for draining dishes. The rack may be made of wood or other local material. Prevent mildew on a wooden rack by thorough drying or using available disinfectant.

Soap or detergents.

A brush, dish mop, or cloth to wash with. In some countries women use local material such as plant fibers.

Tongs, chopsticks or wooden spoons to lift dishes out of hot rinse water. These could be homemade. Even a good, strong, clean stick will do the job.

You will need clean dish towels if you cannot air dry dishes, pots, pans and other cooking utensils.

STEPS IN WASHING DISHES

1. Wash Your Hands

They should always be clean when handling dishes--washing, drying or putting away.

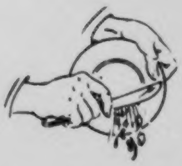
2. Get the Dishes Ready

Remove food from serving dishes, pots and pans soon after using them. Put away usable leftover food in covered containers. Dirty dishes sitting around attract flies and other household pests.

Scrape food scraps and grease into leaves or paper. Put into garbage container.

When you scrape dishes first, your dishwater will not get dirty so quickly.

If you have enough water, soak cooking pans as you empty them. This makes them easier to wash. Hot water is best for soaking sticky and greasy pans--cold water for milk, eggs, and flour.



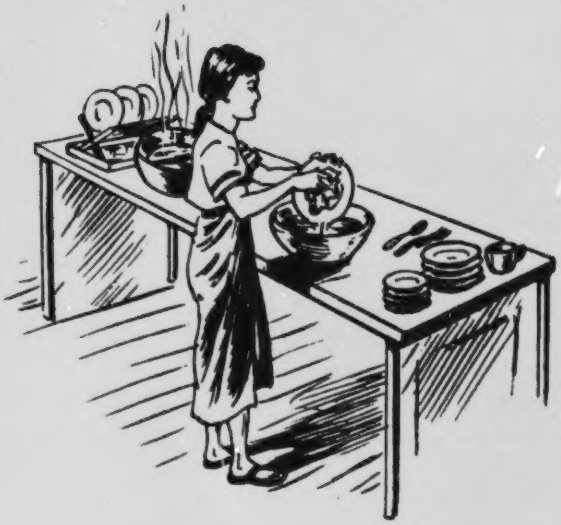
When you cannot wash dishes immediately, soak them.

3. Wash the Dishes

Arrange equipment for washing, rinsing, and draining. Fill one pan with hot water for washing. Use soap or detergent in this wash water. The water should be as hot as your hands can bear. Hot water removes grease and gets dishes cleaner.

Sometimes fuel is not available for heating water, or is expensive. In some countries water for washing dishes is heated in the sun or cold water is used. But cold water does not get dishes clean. Neither warm nor cold water is as safe as hot water.

First, wash the dishes you eat and serve from. Then wash cooking pans and utensils.



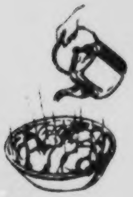
Don't let the soapy wash water get too dirty. You may need to change it if you have many dishes.

Whether you use hot, warm, or cold water for washing, use boiling hot water for rinsing.

4. Rinse

Put the washed dishes into the rinse pan.

If you do not have two pans, empty the wash water after all the dishes are washed and use the same pan for rinsing.



Pour boiling hot water over the dishes to rinse them. Water for rinsing should be boiled for 10 minutes before you pour it over your dishes. Boiling water helps prevent disease germs.

If water is scarce, the rinse water may be reused for washing.

Rinse water should not contain soap and should be clear and clean.

Rinse cooking pans after dishes.

5. Dry the Dishes

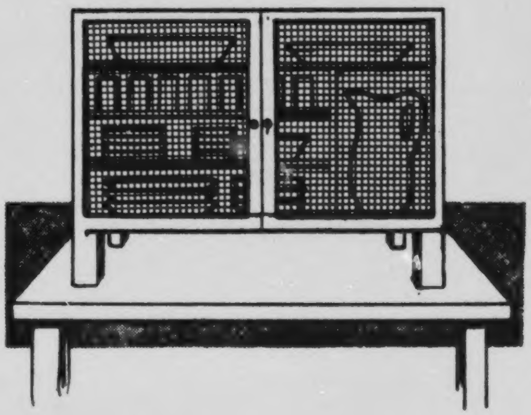
Lift dishes out of the hot rinse water with tongs, chopsticks, or a clean stick.

Drain the dishes in a rack or a shallow pan.

Let the dishes dry in the air. Air drying is the safest and easiest way if they are protected from dust, flies, insects, and animals.

If you use towels to dry dishes, be sure the towels are clean.

6. Storing Dishes



Store the clean dishes and cooking utensils in a closed cupboard that has ventilation.

If you have to store dishes, pots, and pans on open shelves or on a table, cover them with a clean cloth, or turn them upside down.

Fingers carry many germs. Keep them out of cups and glasses. Always carry clean glasses by the base and cups by the handle. Carry knives, forks, and spoons by the handle.

7. Clean up Afterward

Scrub the table top or eating surface.

Empty the dishwater into a container if you do not have a sink. You can use it for watering your garden.

Do not throw dishwater into the yard. Pools of water attract mosquitoes.

Rinse the dish pans with hot water and dry. Put them away in a clean cupboard or hang them on the wall.

If you have a sink, clean it with scouring materials.

CARE OF DISH TOWELS AND CLOTHS

Wash dish towels and cloths regularly.

If possible, wash them once a day in hot soapy water and rinse in hot clear water.

At least once a week, wash them in a homemade or commercial bleach to:

- kill germs
- remove spots
- keep clean
- make white

If you do not have a chlorine bleach or disinfectant, boil towels once a week in soap and water.

Dry in fresh air and sunshine. Sunshine will help to bleach towels. Store in a clean place.

SCOURING

Burned-on food, smoke, rust and other stains need special cleaning. You could scour with:

- sand and pebbles
- wood ashes
- limes and lemons
- salt
- vinegar
- soda
- gourds--the spongy insides of some dried gourds are good for scouring.
- coconut husks

Commercial scouring powders are good if available.

SPECIAL CLEANING PROBLEMS

Glass

For washing bottles and jars with small openings use a long brush, a rag wrapped around a stick, or use sand and pebbles. Invert to dry.

Copper and Brass Utensils

Food containers made of copper and brass should be bright and shining. Blue and green copper salts are poisons. Copper and brass cooking dishes should have a tin lining.

To clean badly tarnished copper and brass, use a fine scouring material such as wood ashes, or a commercial scouring powder. A cloth dipped in hot lemon juice or hot vinegar, then in salt, is also good for scouring.

Wash in soapy water. Rinse in hot water and dry.

Iron and Tin

Remove stubborn spots by scouring.

Wash with soap and water. Rinse with very hot water. Wipe dry while hot to avoid rusting.

Wood

To clean wooden bowls, spoons, chop sticks, etc., wash with clear hot water.

Do not use soap. Soap is hard to rinse off wood.

When too much soap is left on cooking and eating utensils, it mixes with food. If you eat soap, it can make you sick.

Rinse with boiling hot water. If possible, set the utensils in the sun to dry. Dry well to avoid mildew.

Baby's Dishes

To help keep disease germs away from baby give his dishes special care. Wash your hands before handling his dishes.

Rinse soiled dishes, bottles and nipples soon after using.

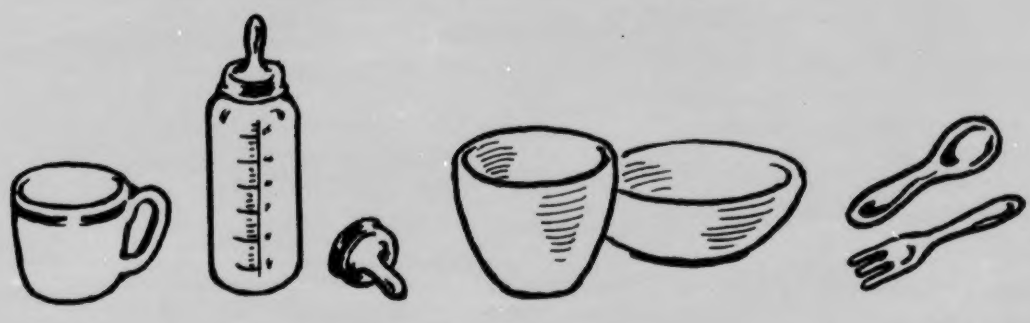
Wash with hot soapy water. Use a brush, if possible, to clean the inside of the bottles. If you do not have a brush, use a little sand or a few pebbles. Then fill the bottle half full of water. Shake it well. Remove the water, pebbles and sand. Rinse the bottles with more water to get out all the sand and pebbles.

Be sure to wash the insides of nipples.

Place the bottles, nipples, spoon and dishes in a pan. Cover with water. Boil for 10 minutes. Drain.

Air dry. Avoid touching the rims or insides.

Keep them separate from the family dishes.



Dishes for the Sick

Wash your hands before and after handling dishes for the sick, to avoid spreading disease germs.

Burn or bury any food the sick person has been served but does not eat.

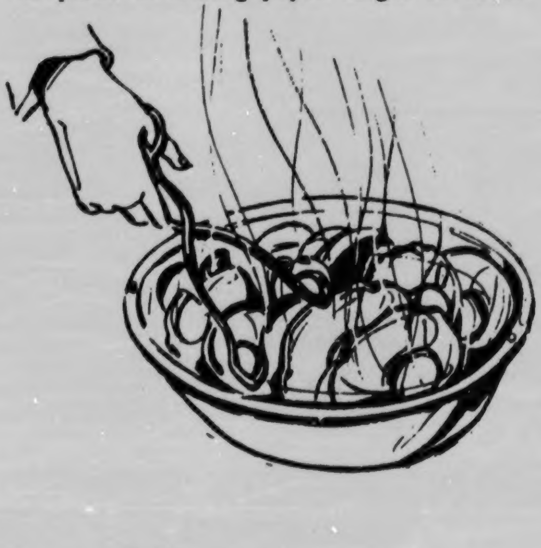
Wash the dishes with soapy water.

Place them in a pan covered with clean water.

Boil for 10 minutes. Drain. Air dry.

Store separately from the dishes the rest of the family uses.

When possible use some kind of material that can be burned or buried for serving food to a sick person. A large clean leaf or piece of strong paper might be used.



DEMONSTRATIONS

How to wash dishes.

If you follow instructions given in this bulletin, you can give a good demonstration.

Emphasize:

- using soapy water for washing.
- using boiling hot water for rinsing.
- air drying of dishes.

How to make soap.

How to make scouring materials.

How to make a sink.

How to make a dish rack.

How to make storage to keep dishes clean.

Suggestions to Help You Give a Good Demonstration

Prepare yourself carefully. Know more about the subject than you plan to teach.

Outline your demonstration step by step and write down exactly what you will say at each step.

Practice your demonstration until you can do every step without hesitation.

Use only equipment and materials available to village families.

Arrive at your meeting place ahead of the women and arrange all materials for your demonstration neatly and in the order you will use them.

Plan for your audience to be seated so that everyone can see and hear easily.

Use visual aids in your demonstration if they will help to make your presentation clearer.

Ask one of the women to assist you. This helps develop leadership.

Evaluate your own demonstration.

1) Did the women learn how to do what you demonstrated?
2) What evidence was given that the women plan to carry out this practice in their homes?
3) How could this demonstration be improved?

Remember.....

WASH DISHES RIGHT TO...

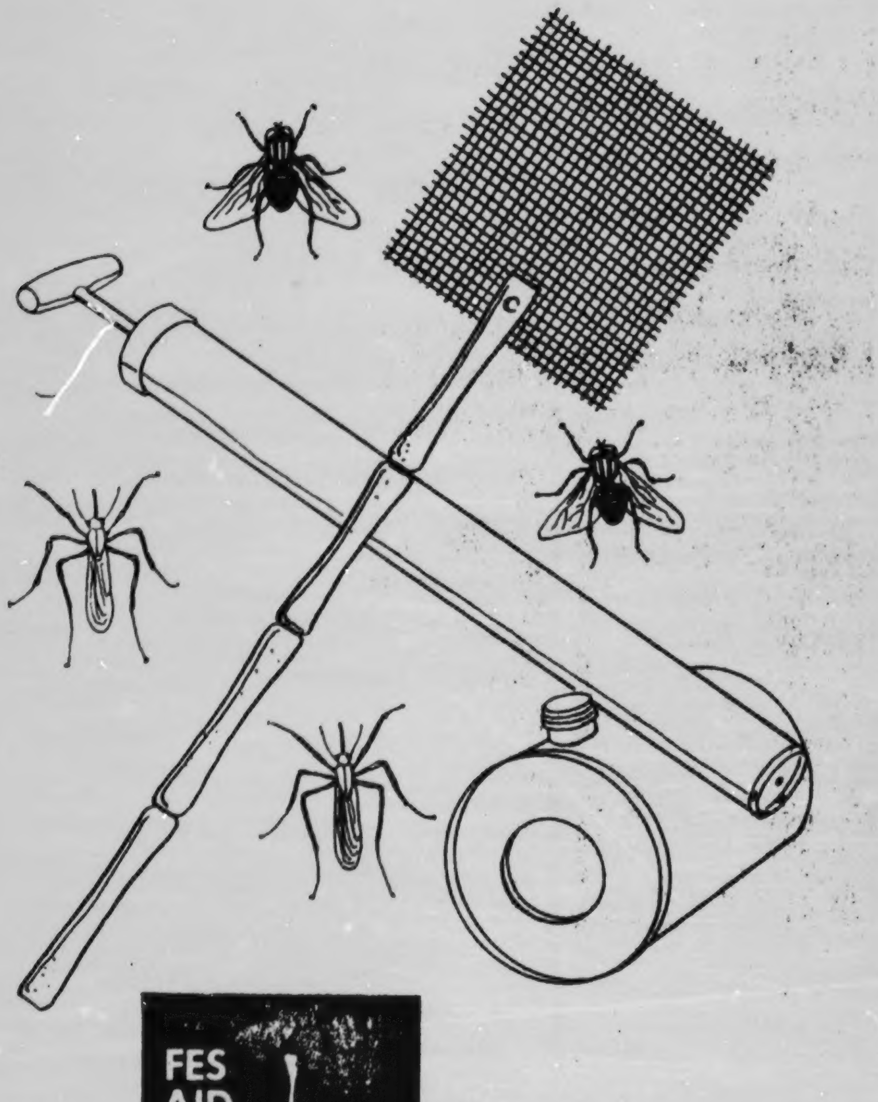
- Prevent Disease Germs
- Make Food Taste Better
- Make Dishes Look More Attractive

BOOKS TO HELP YOU

- From Hand to Mouth--U.S. Department of Health, Education and Welfare, Public Health Service, Bulletin No. 281.
- Miss Williams Cookery Book--Longman's, Green and Company, London, New York.
- Tools for Food Preparation and Dishwashing--U.S. Department of Agriculture, Home & Garden Bulletin No. 3.

BEST COPY AVAILABLE

GET RID OF HOUSEHOLD PESTS



FES
AID

SANITATION SERIES
NUMBER 5

Federal Extension Service—United States Department of Agriculture, in cooperation with Agency for International Development, U. S. Department of State.

BEST COPY AVAILABLE

This is for

YOU

The Home Economics Extension Worker

or

Village Worker

The information in this booklet is based on experiences of extension workers and health workers in many countries. You'll find ideas to help you teach families how to get rid of some household pests. It was not possible to include all household pests found in each country in this small publication. Ask the sanitarian of your health department or other officials to help you.

Use this material in any way best suited to your needs.

BY KATHRYNE SHEEHAN HUGHES

Appreciation is expressed for assistance from: health, sanitation, home economics and information personnel of the Agency for International Development; specialists in the Federal Extension Service, and staff members of other agencies.

Issued June 1963

ER&T - 183 (10-62)

CONTENTS

Page

GET RID OF HOUSEHOLD PESTS.................................. 3
  Inside the House.............. 4
  Outside the House............ 5
  Insecticides..................... 5
FLIES 6
MOSQUITOES 8
LICE................................... 10
ANTS 11
FLEAS 11
BED BUGS 12
CLOTHES MOTHS 12
COCKROACHES 13
ITCH MITES......................... 13
SPIDERS.............................. 14
RATS AND MICE.................. 14
DEMONSTRATIONS 15

Spraying dwelling with DDT to protect occupants against malaria -- Cambodia.

GET RID OF HOUSEHOLD PESTS

No one likes flies, cockroaches, scorpions, mosquitóes, ants, rats, mice, or other household pests around the home.

These insects and rodents may carry disease germs that will make your family sick.

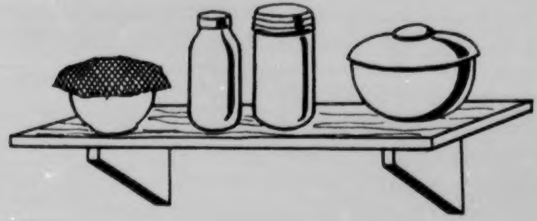
These dangerous pests live and breed in dark, dirty, and damp places. They like places where garbage, trash, and filth pile up.

You can help get rid of insects and rodents by keeping your house and surroundings clean and dry and by using insecticides.

INSIDE THE HOUSE

Clean your house carefully at least once a week. Clean all parts of the house--don't forget the corners, shelves, cupboards and closets.

Air your bedding and mattresses in the sun often. Insects hide in dirty beds and bedding. Wash blankets, quilts and sheets often. When possible hang them in the sun to dry.



Keep food in tightly covered containers. If possible, store containers of food in cupboards, on shelves or in a refrigerator.

Clean shelves often where food is stored. Remove all packages and containers of food. Scrub the shelves with soap and water.

Inspect all packages of food for insects. Foods such as flour, meal, cereal, dried fruits and vegetables may have insects. Look at these foods often to see if they are infested.

If you find insects you may need to use an insecticide.

Don't leave greasy dishes, or pans in the kitchen. These will attract pests. Try to wash these containers soon after using.

If you have fruit or vegetable peelings or other waste food scraps, feed them to chickens or pigs immediately or keep them in a tightly covered garbage can. When you empty the can, bury or burn the garbage.

Get rid of trash. Burn or bury it.

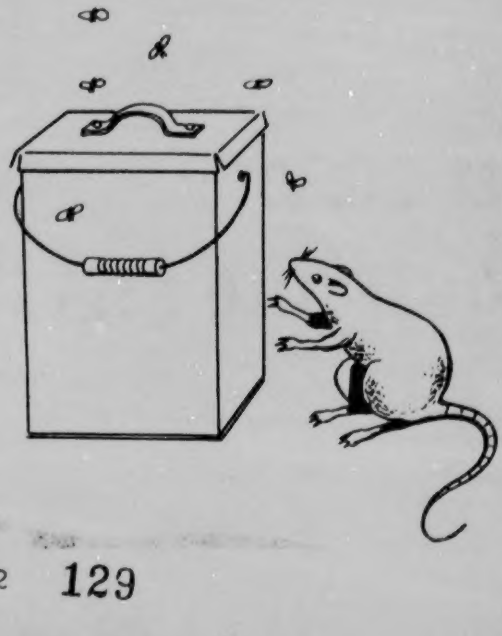
Some people screen windows and doors to keep out mosquitoes and other insects. In a humid climate use screens made of rust resisting metals. Sometimes a woven material such as mosquito netting is used.

Don't leave a wet mop around, since insects like dark, moist places. If possible, wash and dry it out of doors before storing in a closet.

Tack pieces of tin or wood, or use clay, to close small openings in the floor or wall. This helps keep pests out of the house. Rats and mice will not be able to get in.

Keep all animals out of the house.

A covered garbage can keeps out flies, rats and other animals.



OUTSIDE THE HOUSE

Keep your yard and surroundings clean and dry.

Get rid of tin cans, dishes, coconut shells, or anything that can collect water. Don't let garbage or trash pile up in the yard. Burn or bury trash.

Have good drainage around the house and yard.

Fill any small pools of water with earth.

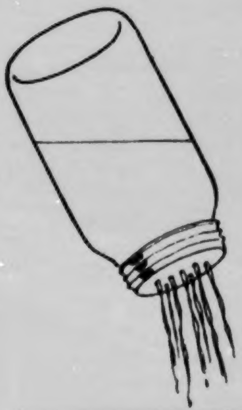
Pour a little kerosene on larger pools of water around the house or spray these pools with insecticides. Do not treat water that is to be used for drinking water for humans, animals, or poultry.

Have a well-built sanitary latrine and use it. Keep the cover of the latrine hole closed.

INSECTICIDES

USE INSECTICIDES WITH CARE. THEY ARE POISONOUS TO PEOPLE AND ANIMALS. KEEP THEM OUT OF REACH OF CHILDREN.

In all parts of the world insecticides are used to help control household pests. They come in the form of sprays, dust or bombs. An insecticide is a chemical used to destroy insects.



You can buy good insecticide sprayers for very little money. Or you can make a sprinkler by punching tiny holes in the lid of a glass jar. Put the insecticide solution in the jar and sprinkle it over the area to destroy adult insects and stop growth of young ones.

Wash any spray or solution off your skin immediately with soap and water. If you spill any on your clothing, change it immediately. After using insecticides, wash your hands. Avoid breathing insecticide dust or mist. If you tie a cloth over your nose and mouth when using the sprayer or sprinkler you will not breathe the poisonous fumes.

Do not spray oil solutions near an open flame.

Be sure dishes, pots and pans and other cooking utensils are covered when you spray. If they are not covered, wash them thoroughly with plenty of soap before using them.

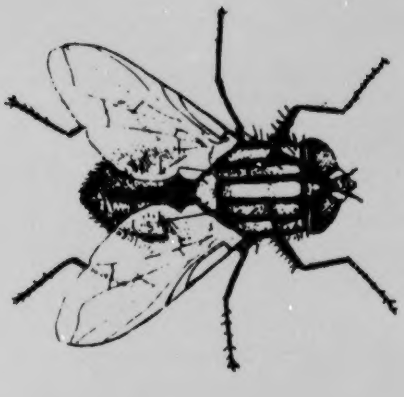
Foods, drinking water, and beverages should be in tightly covered containers when you spray.

Ask your health department sanitarian or other health officials to tell you:

- what kind of insecticide to use
- where to get it
- how to use it.

These people have special training on how to control household pests. They want to help you.

FLIES



This drawing has been greatly enlarged to show what a fly looks like.

To help control flies you need to know:

- what harm they can do
- how they grow
- where they come from
- how to control them.

WHY FLIES ARE HARMFUL

The fly might look harmless but it is dangerous. It carries disease germs on its hairy body and legs and in its stomach.

The fly picks up germs from waste materials like garbage, manure, and human excreta. The fly also likes to sit on sores of men and animals.

It leaves disease germs wherever it goes:

- on food in the market
- on food in your home
- on you and your children.

The germs left by the fly can make you and your family sick with typhoid, dysentery and other diseases.

Be sure to keep flies off of your baby. He cannot shoo them away. Use a mosquito netting to protect him.

HOW FLIES GROW

The house fly has four stages of life.

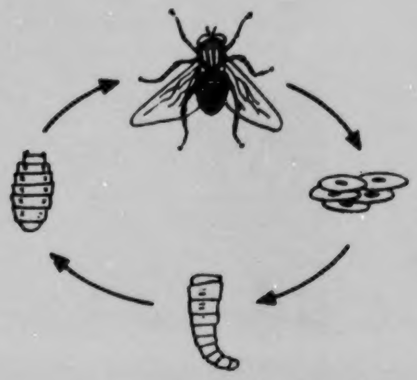
The life cycle may take from a week to several months.

Temperature, moisture and available food affect the cycle.

The female housefly lays her eggs on:

- manure
- human excreta
- rotting food.

The eggs hatch into tiny maggots which feed on these materials. The maggots grow into inactive forms called pupae. The pupae turn into adult flies. The cycle starts all over again.



Life cycle of the fly.

WHERE FLIES COME FROM

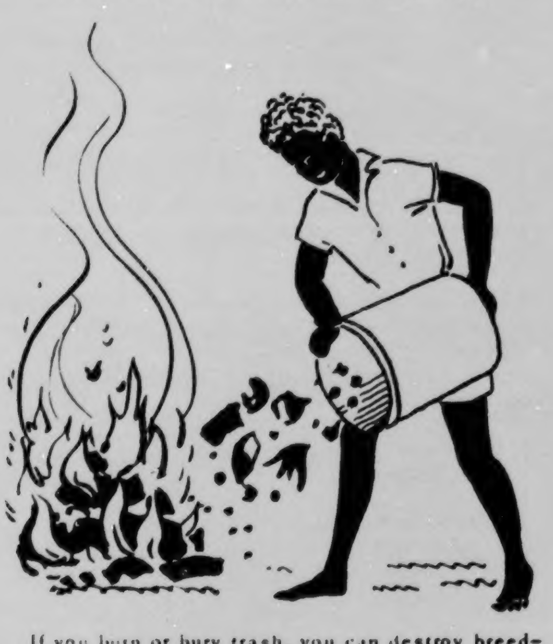
Flies live on almost any decaying matter. They feed on garbage, manure and human wastes. They come into your home and yard.

Animals attract flies. Try to keep animals and flies out of your house. Keep animals in a pen or pasture.

Your community should work with other communities to control flies. Flies can travel as far as 20 miles from their place of origin.

TO CONTROL HOUSE FLIES

Cleanliness is important in controlling flies. Keep your house, yard, and other buildings clean. Destroy fly breeding places. It is important to properly dispose of animal wastes (and dead animals), human excreta, trash, and garbage.



If you burn or bury trash, you can destroy breeding places of flies.

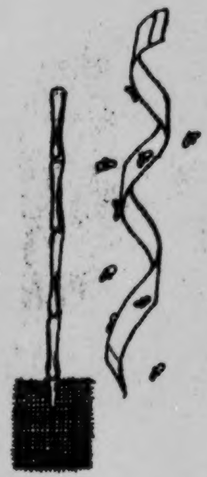
If animal manure is to be used as garden fertilizer, spread it in a thin layer to dry out. That way flies will not find it a good place to lay eggs.

Do not let garbage pile up in the house or yard. Put it in a garbage container with a tight fitting lid. To dispose of garbage, feed it to animals, bury or burn it.

Some people use screens to help keep flies out of their house. They screen windows and doors of their home.

Insecticides are used to destroy flies quickly. Use an insecticide in a spray.

There are many kinds of insecticides used for controlling house flies.



Fly paper and fly swatters help to destroy flies also. Both of these may be made in the home.

To make sticky fly paper use:

- 5 parts castor oil
- 8 parts powdered rosin

Heat these two ingredients until the rosin is dissolved. They should not be boiled.

The material, once prepared, can be stored indefinitely in cans or jars. Always heat it before using so it is hot when applied. Spread this mixture in a thin coat on paper.

Newspapers could be used. Or spread it on large dried leaves. Other oils and plant rosins should work if castor oil and rosin are not available.

Hanging cut paper or leaves on doors helps too. Any breeze will move the paper and leaves. Flies avoid anything moving.

MOSQUITOES

There are different kinds of mosquitoes. Some mosquitoes put disease germs such as malaria and yellow fever into your body. Others carry filariasis.

Only one kind of mosquito can give you malaria. It is called ANOPHELES. They are usually found in damp, warm climates. Usually they come out at night and bite you.

Mosquitoes lay their eggs in water or in damp places near water. The larvae and pupae live in water. Pupae usually grow into adults in about 2 days. In another day or two the female adults are ready to bite. Male mosquitoes do not bite.

TO CONTROL MOSQUITOES

If mosquitoes are a problem where you live, get rid of their breeding places.

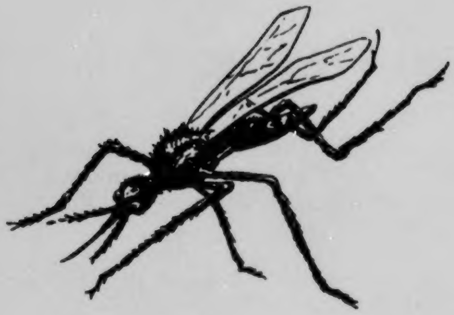
Do not leave empty tins or bottles, coconut shells, or other trash that holds water, near the house.

Bury old tins or bottles deep in the ground.

Fill in tree holes with concrete if you have it. If not, use any local material that will close the holes tightly.

See that rain barrels, tubs or any containers used to hold water are covered tightly.

Keep weeds and shrubs away from the house. This will eliminate day time resting places for mosquitoes.



This drawing has been greatly enlarged to show what a mosquito looks like.

Drain or fill in all small puddles which have stagnant water. Earth or gravel may be used.

Put a little oil or kerosene on small puddles of stagnant water when you cannot drain them. Rain will wash away kerosene so you will have to put kerosene on the water often.

For larger bodies of water that cannot be covered with dirt or drained, spray the top with an insecticide.

If you have pans for watering chickens, empty and wash them once a week.

If you have flowers in containers of water change the water every day. Mosquitoes can lay their eggs in this water.

Screen your windows and doors with metal screening, mosquito netting or other available material.

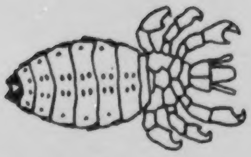
Everyone in the community should take these precautions. You and your neighbors can work together to get rid of mosquitoes. Adult mosquitoes may come from neighboring places.

If your government provides a spray man, he can help you.

Ask him to advise you on how to get rid of mosquitoes and how to protect yourself and your family from the diseases carried by mosquitoes.

Health department worker in Lebanon sprays inside a house to prevent mosquitoes. →

LICE



This drawing has been greatly enlarged to show what a louse looks like.

There are three kinds of lice:

- the body louse
- the head louse
- the crab louse

THE BODY LOUSE can carry disease germs. It lives in clothing. Washing your clothes in boiling hot water destroys lice.

HEAD LICE live in hair.

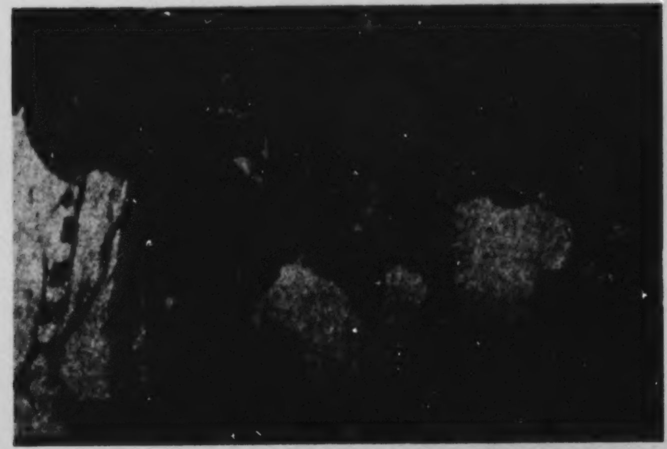
You can feel them because they bite you to drink your blood. This makes the place itchy. You are always scratching your hair.

You can see the lice eggs stuck onto your hair. They are very small white lumps.

Short hair is easier to keep clean. Comb and brush your hair every day.

Everyone should have his own comb and brush. If this is not possible, always wash the comb and brush before using.

Public health nurse in Liberia instructs school teacher on how to establish school health inspection program.



Wash your hair with soap and water often to help avoid lice.

A powder mix containing DDT or other insecticides such as lindane, or pyrethrum are used to get rid of head lice. Ask your local sanitarian about amount to use.

If DDT powder is used put it into the hair with a mechanical duster or a shaker type container.

The powder should not be washed out for 10 days. DDT does not affect the eggs. If left in the hair, the powder will destroy young lice as they hatch from the eggs.

Some people wash their hair the day after treatment to get rid of the lice which have been destroyed. Then 8 or 10 days later, they dust the hair again with the DDT powder just after the eggs which remained have hatched out.

Sometimes kerosene is used to get rid of head lice. If you use kerosene, use it sparingly to avoid burning the skin. Then wash your hair with soap and water.

Two or more treatments with kerosene are needed to get rid of the new lice that come when the eggs hatch.

Kerosene is not as effective as DDT. It is not recommended if DDT is available.

CRAB LICE live on the hairs of the body rather than clothing.

Crab lice can be controlled with two treatments of powder containing DDT or other insecticides such as lindane or malathion.

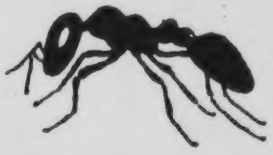
Give the second treatment 8 to 10 days after the first treatment to get rid of the newly hatched lice.

All hairy portions of the body--like the arm pits and legs and the privates should be dusted with the powder.

Rub the powder in with the fingers.

Do not bathe for 24 hours after applying the DDT.

ANTS



This drawing has been greatly enlarged to show what an ant looks like.

Ants are found everywhere--in the yard, in the kitchen, on fruit trees, and in walls.

They are not always a problem. Some kinds may destroy household pests. But sometimes they go after our food.

TO CONTROL ANTS

Locate their nests and destroy them by pouring used engine oil, ashes, or boiling water into the nests. Prune the shrubs around the house so that the leaves do not come in contact with the building.

To prevent ants from entering the house use an insecticide spray. Use this spray on the outside walls, from the ground up to the windows.

If there is open space underneath the house put the insecticide on the under side of the structure. Be sure to treat all posts. Using an insecticide on the outside of the house every two months should control ants.

Ants come into the house through cracks and openings. Put the spray in these places.

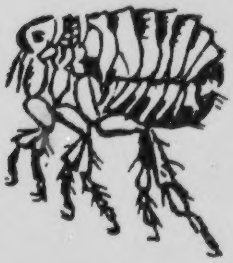
This will help to control ants before they have an opportunity to get to tables or onto foods. Be careful to avoid putting insecticide where it can get into food.

Once a month is often enough to treat the same surfaces. If you continue to have ants treat surfaces that you may have missed.

Keep food in tightly covered containers. Place the legs of tables and food storage cabinets in containers of water with a film of oil.

FLEAS

Fleas attack both people and animals. They are found on dogs, cats, fowl, and pigs. They are also found on pests like rats and mice.



This drawing has been greatly enlarged to show what a flea looks like.

TO CONTROL FLEAS

In rainy season fleas come into the house. If fleas are in your house, spray or dust with an insecticide.

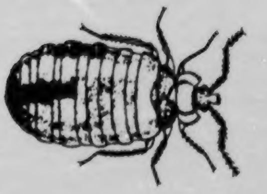
Use insecticides such as DDT, malathion or pyrethrum dust. Apply the powder on the floors in cracks where the fleas breed.

Keep your house and surroundings clean. Fleas live in dust and dirt.

Cat and dog fleas may be destroyed with soap and water. Wash the pet with a soap that contains tar or creosote. An insecticide such as pyrethrum dust or four or five percent malathion dust can be used on pets.

BEST COPY AVAILABLE

BEDBUGS



This drawing has been greatly enlarged to show what a bedbug looks like.

Bed bugs are small flat bugs that bite us to drink our blood. They leave itchy lumps on the skin. The itchy lump has a red center.

They come out at night to bite us while we sleep. During the day these insects hide in:

- crevices in walls, floors, beds, sleeping mats and other furniture
- corners of pillows and in mosquito nets.

The bed bugs have a disagreeable odor and leave stains on bed sheets.

Bed bugs are brought into houses in dirty sleeping mats and clothes.

TO CONTROL BED BUGS

Keep your house clean.

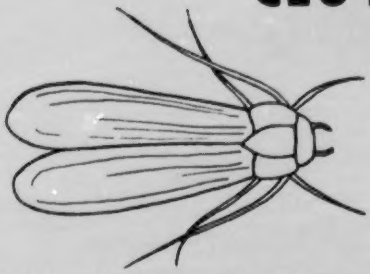
Air and brush your bedding--sleeping mats and blankets--out in the sunlight every day.

Bed bugs dislike kerosene. Brush it along cracks of baseboards and floor. The kerosene odor will disappear.

Boiling water can be poured into bed slats and cracks to destroy bed bugs.

Find the places where bed bugs hide in the daytime. Use an insecticide such as lindane or malathion emulsions. DDT may be used but in some areas bed bugs are resistant to it. There may be other effective insecticides available.

CLOTHES MOTHS



This drawing has been greatly enlarged to show what a clothes moth looks like.

Moths will eat holes in woolen materials, silks, furs, feathers, rugs or upholstery.

The worm which develops from the moth egg does the damage. Keep moths from depositing eggs.

TO CONTROL CLOTHES MOTHS

Keep closets clean.

Put woolen materials, rugs, clothing, in the sun and air. Carefully beat and brush to remove moth eggs. Spray with five percent DDT in kerosene or other available insecticides before packing and storing.

Pack tightly in clean boxes, bags of cotton, linen or strong paper. Be sure there are no openings so moths can get in.

COCKROACHES

Cockroaches like moist warm places.

They are attracted to food and are also found among books, clothes, dishes, etc.

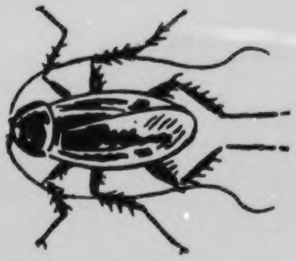
They carry dirt and give an unpleasant odor to cupboards, pantries and closets.

During the day, they stay in dark corners and under trash. At night they come out.

TO CONTROL COCKROACHES

Keep everything clean.

Cockroaches develop in large numbers around dirt and filth. Thorough cleaning helps to avoid cockroaches.



This drawing has been greatly enlarged to show what a cockroach looks like.

Destroy cockroaches with insecticide sprays, bombs, or dusts. Insecticides such as pyrethrum, DDT, chlordane, dieldrin, and lindane have been used in different areas of the world.

Insecticides to kill cockroaches may also be painted on surfaces with a brush or a cloth tied to a stick.

ITCH MITES

Scabies is the name for little itchy lumps in the skin caused by itch mites.

The lumps may come in the soft parts of the skin--between the fingers, inside the wrists and between the legs.

When you scratch these lumps, they turn into sores. The sores become infected and grow bigger.

TO CONTROL ITCH MITES

The itch mite which makes the sores digs a little tunnel under skin to lay its eggs. The mites are so small you cannot see them.

- Wash the body with soap and water
- Dry the body carefully
- Use treatment your doctor recommends.

Put on clean clothes after treatment or the mites will come back.

You must repeat the treatment in about a week. The second treatment will kill the mites that have come out of the eggs.

The itch mites also stay in clothing. They stay in blankets and sleeping mats.

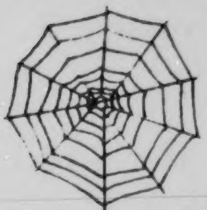
Wash your clothes with soap and water or boil them.

Put your bedding and sleeping mats out to air in the sunlight every day.

Lice and itch mites come to us from other people through intimate contact.

Do not use other people's blankets or sleeping mats.

Keep yourself, your clothes, and other personal belongings clean.



SPIDERS

Several kinds of spiders get into houses. They build webs in corners, on furniture and other places. These webs collect dust and dirt.

Some spiders are dangerous. They can bite you and make you sick. You may know which spiders are dangerous in your area. Spider bites have killed people.

Some spiders are beneficial because they feed on flies and other household insect pests. Many kinds of spiders will not bite you.

TO CONTROL SPIDERS

Inside the house brush down the webs. Destroy the white egg cocoons. If you do not destroy the cocoons, they will produce large numbers of small spiders.

Use insecticides such as pyrethrum, chlordane, malathion, or lindane sprays in corners, underneath furniture, under steps or any place you find webs.

Use caution when spraying in enclosed spaces. Some spiders, agitated by the spray, have been known to drop onto the person doing the spraying and bite.

Outside the house, remove piles of wood, loose brick, tile or trash from the yard. This is where spiders may live. Use insecticides out-of-doors also.

RATS AND MICE

Rats and mice are attracted to food. They eat stored grains, such as rice and corn.

Rats build their nests in trash, in storerooms and places where they are not easily disturbed.

Rats and mice can carry disease germs. These germs can make you sick.

TO CONTROL RATS AND MICE

Keep all food and stored grains in tight containers or closed cupboards.

Do not leave food scraps around.

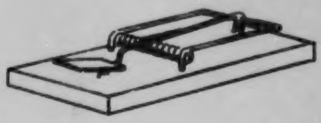
Do not leave garbage around--

- use the garbage for food for animals
- put it on a compost pile
- burn it or bury it..

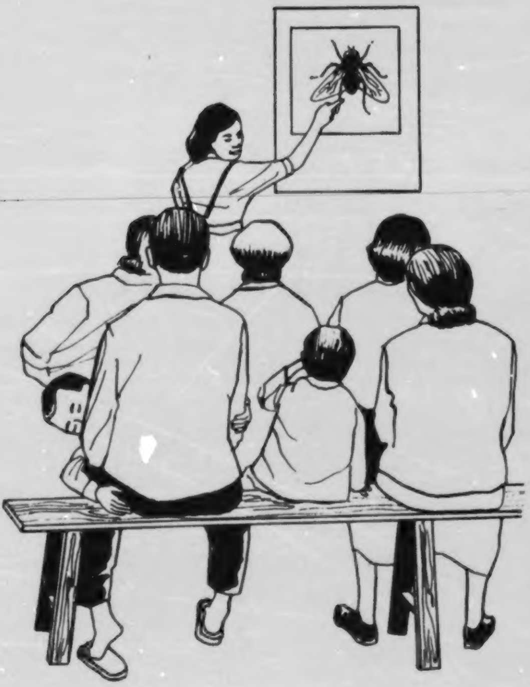
You can trap rats and mice. Place traps so that pets are not hurt.

Poisons can be used but they are dangerous.

Rats and mice move from one home to another. Everyone in the community must work together to get rid of these household pests.



DEMONSTRATIONS



Visual aids make teaching easier.

Show how:

- insects grow and explain why they are pests
- rodents grow and explain why they are pests
- to make a fly swatter
- to make fly paper
- to make a homemade hand sprayer
- to patch holes in walls with tin or wood
- to get rid of garbage and trash.

Ask the sanitarian from your health department how to use insecticides.

Suggestions to Help You Give a Good Demonstration

Select a topic within your program which the women have helped to plan.

Prepare yourself carefully.

Know more about the subject than you plan to teach.

Outline the demonstration step by step and write down exactly what you will say at each step.

Practice your demonstration until you can do every step without hesitation.

Use only equipment and materials available to the families concerned.

Arrive at your meeting place ahead of the women and arrange all materials for your demonstration neatly and in the order you will use them.

Plan for your audience to be seated so that everyone can see and hear easily.

Use visual aids in your demonstration if they will help to make your presentation clearer.

Ask one of the women to assist you. This helps develop leadership.

Evaluate your own demonstration:

(1) Did the women learn how to do what you demonstrated?

(2) What evidence was given that the women plan to carry out this practice in their homes?

(3) How could this demonstration be improved?

REMEMBER...

Insects and rodents
may carry disease germs.
To control these pests,
you should ...

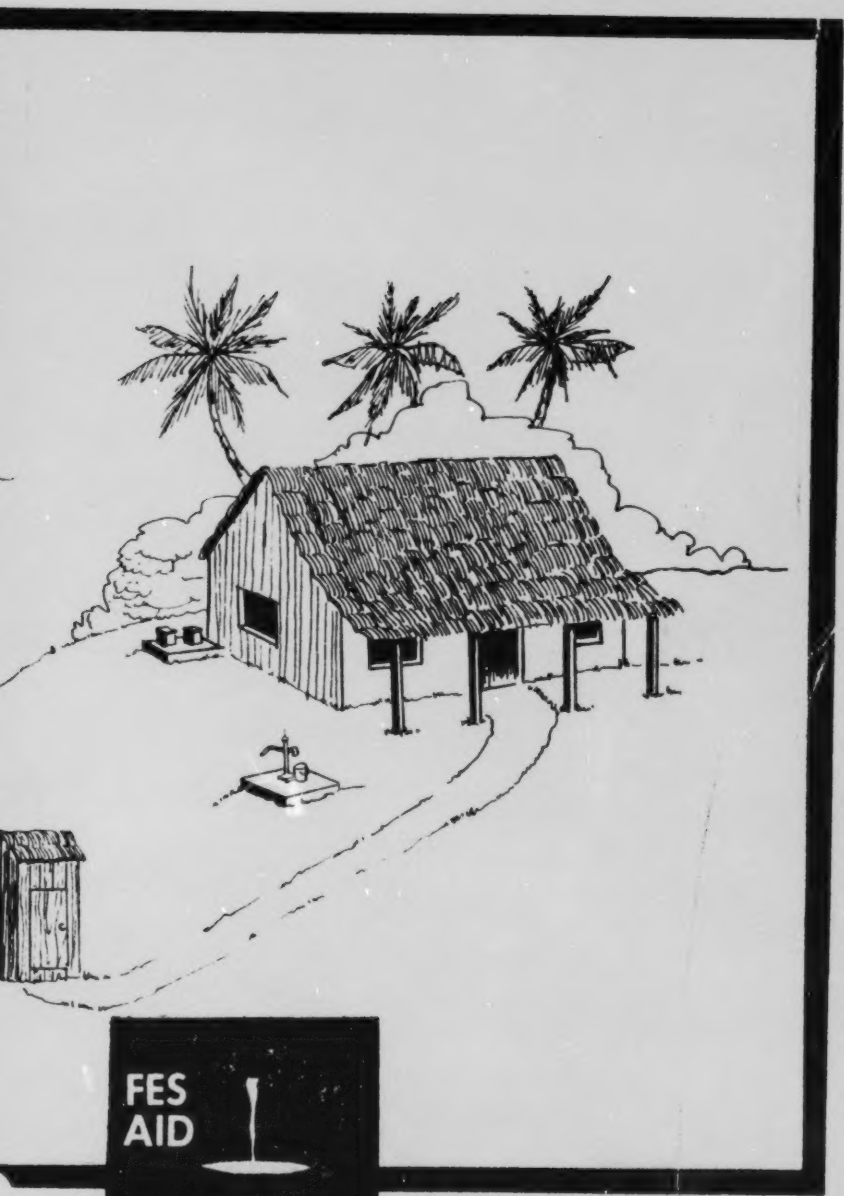
Demonstrating a treatment for head lice.

- keep your home and surroundings clean.
- keep all food in covered containers.
- keep garbage in a covered container.
- feed garbage to animals or burn or bury it.
- destroy breeding places of insects and other pests.
- burn or bury trash.
- use a sanitary latrine.
- ask government officials about the use of insecticides.

BOOKS TO HELP YOU

- A First Hygiene Book by Shelia Jamison, Produced in association with South Pacific Commission Literature Bureau, New Hebrides.
- Fleas - How to Control Them, Leaflet No. 392, USDA, Washington 25, D. C.
- Home Making Around the World, Agency for International Development, Washington, D. C.
- The House Fly, Leaflet No. 390, USDA, Washington 25, D. C.
- Controlling Mosquitoes In Your Home and On Your Premises, Home and Garden Bulletin No. 84, USDA, Washington 25, D. C.
- Insecticides and Human Health by A. W. A. Brown, Professor of Zoology, University of Western Ontario, London, Canada. Published in the World Health Review of Pest Control, Autumn 1962, Part 3.

DISPOSE OF WASTES



FES
AID

SANITATION SERIES
NUMBER 6

Federal Extension Service—United States Department of Agriculture, in cooperation with Agency for International Development, U. S. Department of State.

This is for

YOU

The Home Economics Extension Worker

or

Village Worker

The information in this booklet is based on experiences of extension workers like yourself and health workers in many countries. You'll find ideas to help you teach families how to get rid of wastes around the home.

Use this material in any way best suited to your needs.

BY KATHRYNE SHEEHAN HUGHES

Appreciation is expressed for assistance from: health, sanitation, home economics and information personnel of the Agency for International Development; specialists in the Federal Extension Service, and staff members of other agencies.

Issued June 1963

ER&T - 153 (8-62)

CONTENTS

	Page
Dispose of Wastes.........	3
Garbage....................	4
Trash......................	5
What To Do With Human Wastes..................	7
Build A Sanitary Latrine..	7
Other Ways of Disposing of Human Excreta.......	9
Waste Water...............	10
Animal Wastes.............	10
Dead Animals..............	10
Demonstrations............	11

BEST COPY AVAILABLE

DISPOSE OF WASTES

We all want to live in a clean healthful place. One way to have cleanliness and protect health is to dispose of wastes in a safe way.

Wastes include:

- trash
- garbage
- waste water
- human excreta
- animal wastes

Garbage and trash left around the home and yard provide food for:

flies	mice
roaches	rats

These insects and rodents often carry disease germs from one person to another.

These germs may cause you or your child to have such diseases as:

- typhoid fever
- dysentery
- murine typhus fever
- rat-bite fever
- food poisoning

DON'T LET GARBAGE AND TRASH OR WASTES PILE UP IN AND AROUND YOUR HOME.

When you get rid of trash and garbage, you help your family have a safe and comfortable home and community.

You protect your family's health and reduce the danger of fire and accidents.

You help keep your community attractive and healthful.

When every house and yard in the community is kept clean, everyone benefits.

Rats and insects do not like clean homes and neighbors.

GARBAGE

Garbage consists of food wastes, such as peelings, scraps and bones.

TO GET RID OF GARBAGE:

- use it for food for animals such as chickens or pigs
- use it for fertilizer
- bury it.

Feeding garbage to animals

Animals can eat vegetable peelings and table scraps. Remember to give animals only fresh garbage. Spoiled food is not good for people or animals.

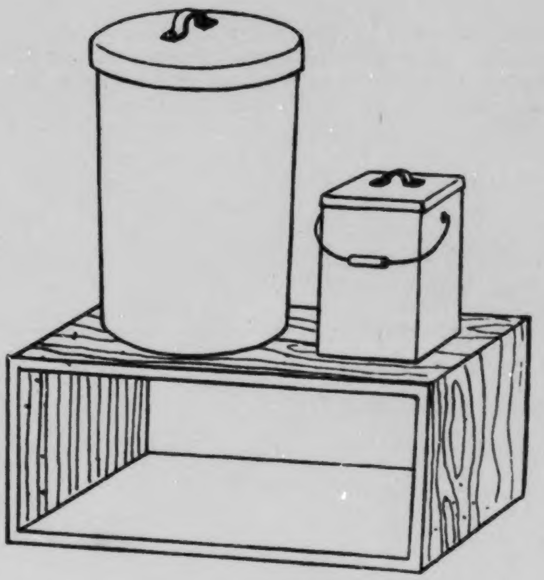
When garbage is used to feed pigs, boil it for 30 minutes. This keeps pigs healthy and prevents spread of trichinosis from food scraps. Be careful that there are no bones, glass or metal in garbage fed to pigs.

Preparing garbage as a fertilizer

- empty it into a pit or trench
- cover with a thin coat of lime
- cover with six inches dirt to keep away flies and animals
- leave it buried for two or three months before using
- remember always to cover garbage with enough dirt every time you put it in a pit or trench to keep away insects and animals.

Containers for Storing Garbage

Containers for storing garbage should have a tight fitting cover to help keep out insects and animals. They should be water tight. Oil drums and large tin cans make good garbage containers. Make lids for them.



In many parts of the world, galvanized metal cans with lids are used.

Garbage containers need to be kept off the ground.

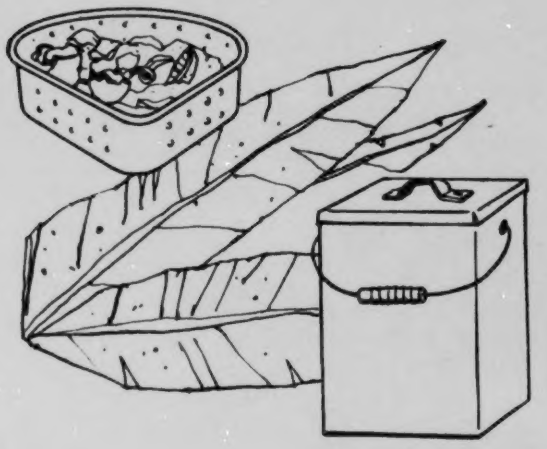
Stands or benches protect the containers from being upset by animals and from rusting out at the bottom.

Stands should be made so it is easy to keep the ground clean underneath.

The garbage containers should be cleaned often with soap and water.

Dry the garbage containers in fresh air and sunshine. Water standing in containers will cause rust.

Rinse with lye or other disinfectant from time to time.



Line the containers with paper or leaves. This helps to keep them cleaner and reduce odors. Banana or other large leaves could be used.

Wrapping the garbage in large leaves or papers will also help to reduce odors.

Drain garbage before putting it into the container. This will help keep the container clean.

Spray insecticides around the container.

TRASH

Trash includes paper, tin cans, tree limbs, dead weeds and plants, old rags, broken dishes and things you do not want any more.

TO GET RID OF TRASH:

- keep trash separate from garbage
- dispose of trash regularly--avoid letting it pile up
- burn or bury the trash.

Things like broken pottery or dishes, pieces of tin or iron should be buried. These will not burn. If there is a community dump, they may be taken there.

Burn dead weeds, plants and leaves, old rags, broken baskets and anything that you can. These could be used as fuel for cooking when fuel is expensive and scarce.

Keep trash out of your house and your yard. Keep it out of the street, too, and out of streams and rivers.

Containers for Storing Trash

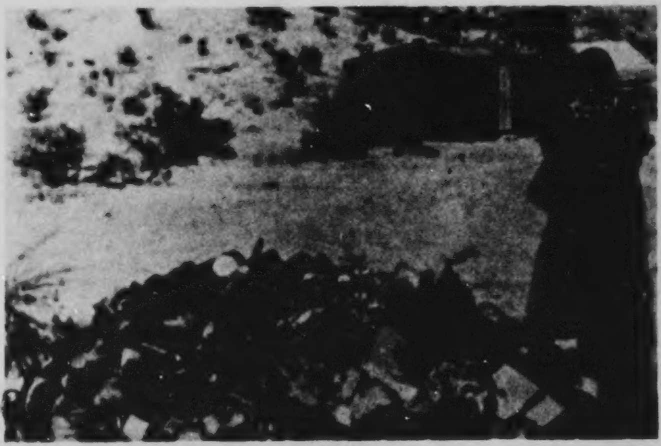
Containers for storing trash may be made of metal, wood or heavy cardboard.

Use containers with tight fitting covers to help keep out insects and animals.

If possible, keep trash containers off the ground on a stand or bench.

Place containers where they are easy to use.

Get rid of trash regularly--avoid letting it pile up.



This woman has collected the trash that was around her home. She plans to have it carried away.

WHAT TO DO WITH HUMAN WASTES

It is of greatest importance that human waste or night soil be disposed of in a safe way. If not, it may cause sickness.

Some of the diseases which are carried from the bodies of people through the waste material from the intestines are:

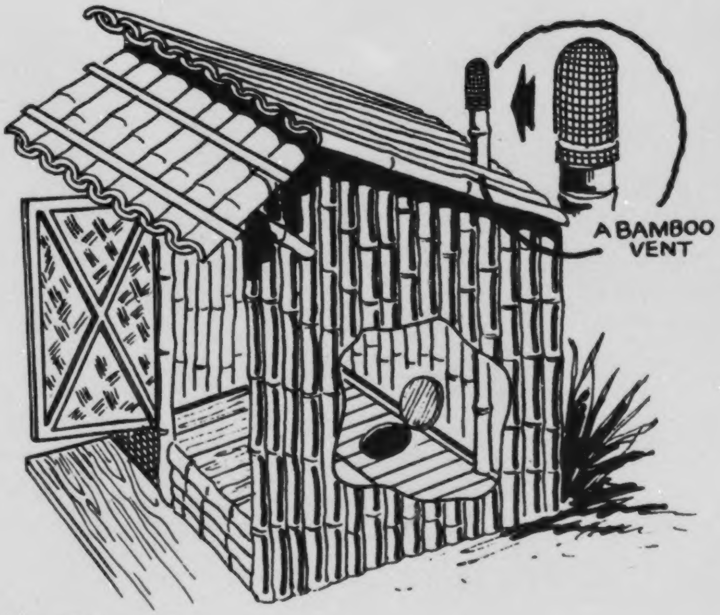
hookworm
typhoid fever
dysentery
cholera
schistosomiasis
infectious hepatitis
guinea worm

Human excreta may be disposed of in several ways. The safest way is a flush toilet with a septic tank or a sanitary latrine.

BUILD A SANITARY LATRINE

Ask the sanitary inspector from your health department to help you to--

- select the location for your latrine
- determine how deep to dig the hole
- decide about the materials to use
- advise you how to build it.



He can tell you how to build it to keep out insects and animals.

←

This Honduras child has a better chance for good health because her family built a latrine. It will be even better when they make it flyproof and construct a cover for the whole.

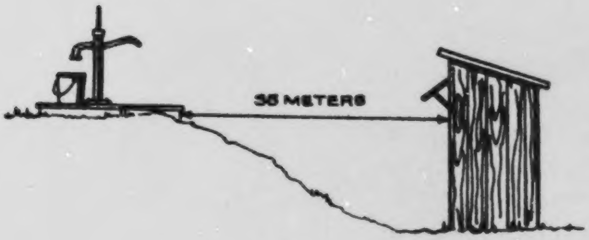
A sanitary latrine can be built by digging a deep hole in the ground and building a small house over it.

The floor should be covered with close fitting boards or bamboo. This helps to keep the hole dark. If possible, have a concrete slab for the floor. This slab could be moved when you dig a new pit.

Make a hole in the middle of the floor.

The hole should be deep. Ask your sanitary inspector of the health department how deep to make the hole.

This type of toilet should be built at least 35 meters away from the source of water used for drinking, laundering and bathing.



The latrine should be on a lower level than these water sources.

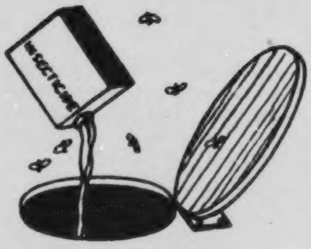
It should be in a dry place if possible.

It should not be built over a stream or river.

Cover the hole with a lid of iron, wood or other material with a handle on it.

The cover helps to keep the hole dark inside and to keep the flies out.

Remember to put the cover back after using the latrine.



DDT or other insecticides may be used to destroy flies in the latrine.

The house over the latrine hole may be built of wood, bamboo or other material.

A vent in the roof carries bad odors away, and should be screened.

Painting or whitewashing the latrine inside and out will help keep it clean. Also, it will be easier to clean and will last longer.

Scrub the inside walls and the floor of the latrine with soap and water and a disinfectant at least once a week.

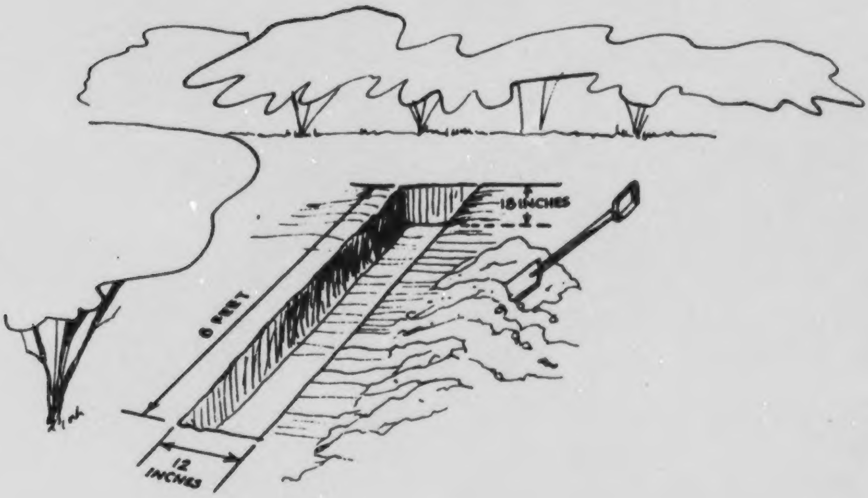
Wash your hands after going to the latrine.

Keep a container of water, soap and a basin for washing hands where it is always easy to use.

When the latrine hole is full, move the house if it can be moved or burn it for fuel. Fill the latrine hole with dirt.

When you cannot have a flush toilet with a septic tank, an outside latrine made properly and kept clean is the safest way to get rid of human waste.

OTHER WAYS OF DISPOSING OF HUMAN EXCRETA



A Latrine Trench

If you soon find water when digging a hole for a sanitary latrine, you may need to make a latrine trench. You will not need to dig as deep a hole. The latrine trench will not last as long as one with a small house over a hole.

If possible, find a place where the soil is sandy, and also where there are bushes or long grass to give privacy or you can make a wall of tree branches with leaves.

The trench should be on a lower level and 35 meters from your water supply.

Dig a trench about 12 inches wide and 6 feet long and 18 inches deep.

Put the material from the trench in a pile on one side. Keep a shovel or flat piece of wood nearby.

When someone has used the latrine, he should cover the excreta with the excavated material. When the trench is full, cover it well and dig a new trench.

It is better to have no roof with this kind of latrine. Sunshine on the ground helps to destroy the disease germs found in human excreta.

The latrine trench does not last long, so it will be necessary to prepare new ones often.

Banana and pawpaw trees will grow well near the old trench latrine. The fruit will be clean and safe to eat. This is because the fruit does not touch the ground. For several years do not grow foods that will touch the ground near the old trench latrine.

Do not allow human excreta on the ground around your house or in the yard. Children and adults can learn to use a latrine or a latrine trench.

Dig a Hole

When you are in the field or the bushes, and a sanitary latrine is not available, you can still get rid of human waste in a safe way.

- Dig a small hole with a sharp knife, stick or shovel.
- Cover the hole after using it.

Night Soil

Untreated night soil may carry disease germs.

There is no known way to treat night soil at home so that it is safe. Never use it to fertilize your garden.

To protect yourself and your family from germs found in human waste:

Wear shoes. Wearing shoes when working outside the house will help to avoid hookworm. Often hookworm is found in soil containing human waste.

When working in dirt, that might have night soil in it, use a hoe or shovel. Do not touch the dirt with your hands.

Wash your hands well with soap and water before eating and after using the latrine. Keep your fingers out of your mouth.

If there is a danger any night soil has gotten into your garden, cook your vegetables. Do not eat them raw.

WASTE WATER

When water is scarce, you can re-use waste water for watering the garden. This water will help to make your garden grow.

Water from laundering can be used when you scrub floors.

Never throw waste water out of the window or door or into ditches and streams. Pools of water in the yard make breeding places for mosquitoes and other insects.

Some homes may have a sink with a septic tank or a cess pool. Then waste water thrown down the sink is not a problem.

If you do not have a sink, dig a hole in the yard and fill it with rocks. Empty the waste water into this hole. The water will seep through the rocks into the earth.

ANIMAL WASTES

Wastes from animals and fowls are not good in houses or near them. That is why animals must have a place to live away from the house.

Use animal manure to fertilize your garden and fields. Well rotted animal manure is safe to use as a fertilizer for your garden.

DEAD ANIMALS

Bury animals as soon as they die.
Flies and other insects are attracted to dead animals. Do not leave them lying around in the yard or in the pens.

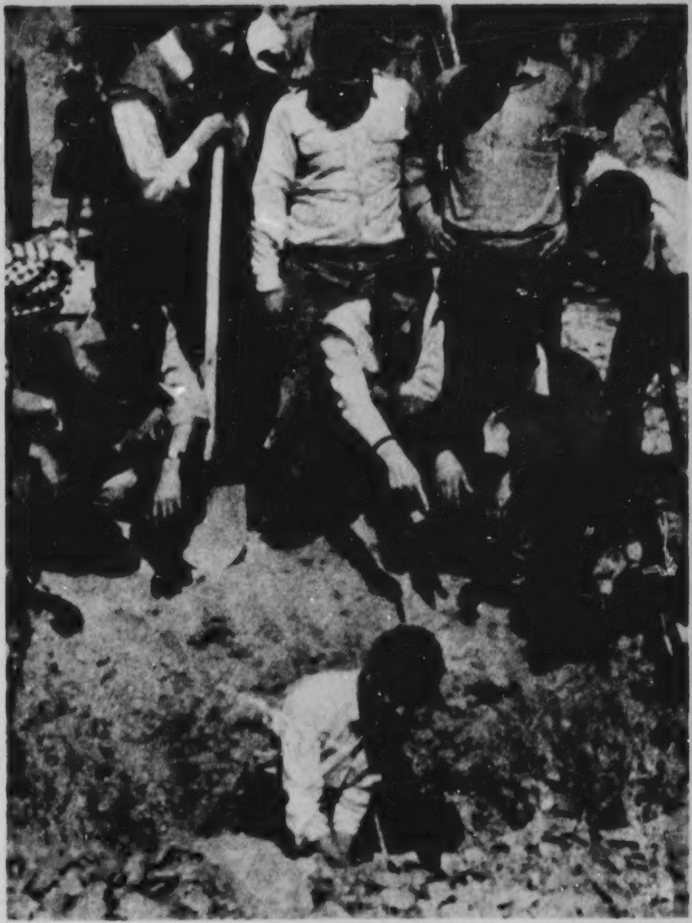
Do not throw dead animals into streams, rivers or irrigation ditches.

DEMONSTRATIONS

Show:

- The kinds of containers for storing garbage and rubbish
- How to dispose of human excreta

    by digging a small hole
    by digging a trench



A demonstration is being given in Jordan on how to dig a hole for a sanitary latrine.

Suggestions to Help You Give a Good Demonstration

Select a topic within your program which the women have helped plan.

Prepare yourself carefully.

Know more about the subject than you plan to teach.

Outline your demonstration step by step and write down exactly what you will say at each step.

Practice your demonstration until you can do every step without hesitation.

Use only equipment and materials available to the families concerned.

Arrive at your meeting place ahead of the audience and arrange all materials for your demonstration neatly and in the order you will use them.

Plan for your audience to be seated so that everyone can see and hear easily.

Use visual aids in your demonstration if they will help to make your presentation clearer.

Ask one of the women to assist you. This helps to develop leadership.

Evaluate your own demonstration.

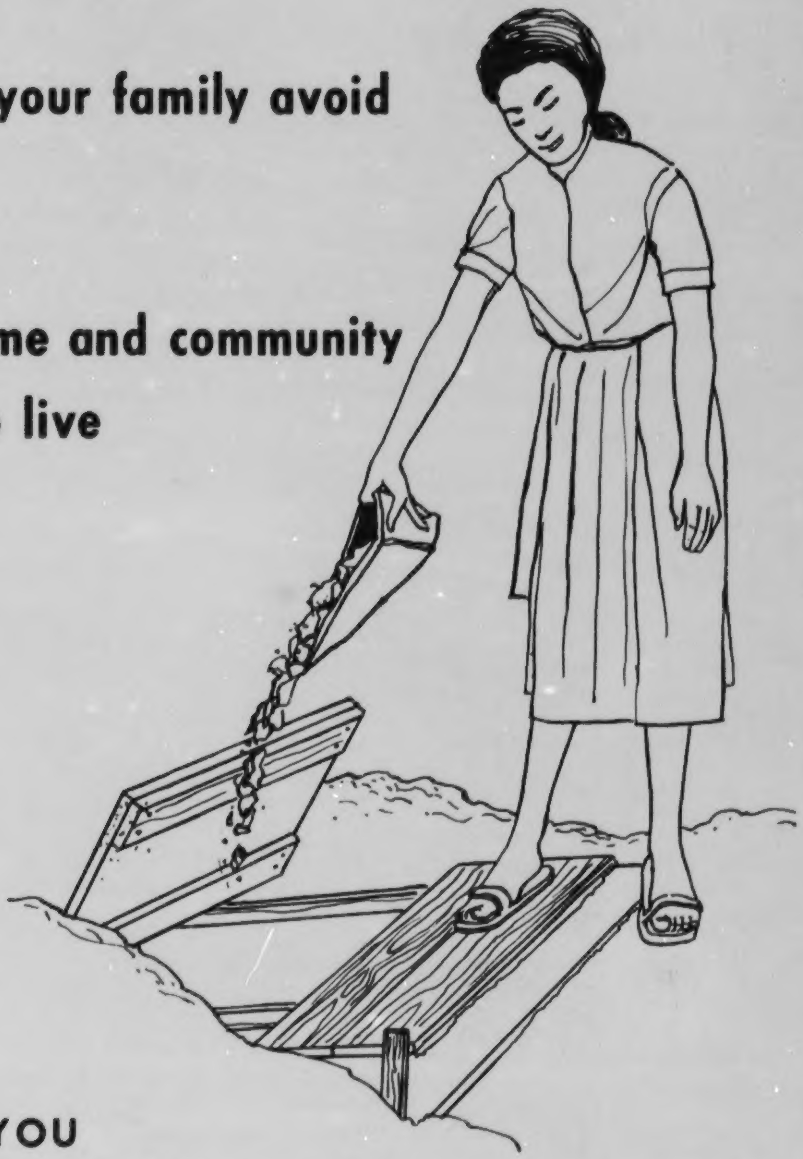
(1) Did the women learn how to do what you demonstrated?

(2) What evidence was given that the women plan to carry out this practice in their homes?

(3) How could this demonstration be improved?

Getting rid of wastes properly

- **helps keep your house and yard clean**
- **helps you and your family avoid disease**
- **makes your home and community better places to live**



BOOKS TO HELP YOU

- Home Making Around the World, Agency for International Development, Washington 25, D. C.
- Safe and Sanitary Home Refuse Storage, U. S. Department of Health, Education, and Welfare, Public Health Service Publication No. 183.

STORING FOOD AT HOME

AN AID
TO EXTENSION
AND VILLAGE
WORKERS
IN MANY
COUNTRIES

FES
AID

SANITATION SERIES
NUMBER 7

Federal Extension Service, United States Department of Agriculture, in cooperation
with the Agency for International Development, U. S. Department of State

This is for

YOU

The Home Economics Extension Worker

or

Village Worker

The information in this booklet is based on experience of extension workers like yourself and health workers in many countries. You'll find ideas to help you teach families how to store food at home.

Use this material in any way best suited to your needs.

BY KATHRYNE SHEEHAN HUGHES

Appreciation is expressed for assistance from: health, sanitation, home economics and information personnel of the Agency for International Development; specialists in the Federal Extension Service, and staff members of other agencies.

Most photographs are from Agency for International Development.

Cover Picture.--A woman in India made this food storage cabinet.

ER&T - 104 (4-63) Issued June 1963

CONTENTS

Page

STORING FOOD AT HOME 3

HOW TO CARE FOR VARIOUS KINDS OF FOOD 3

WHY FOOD SPOILS 7

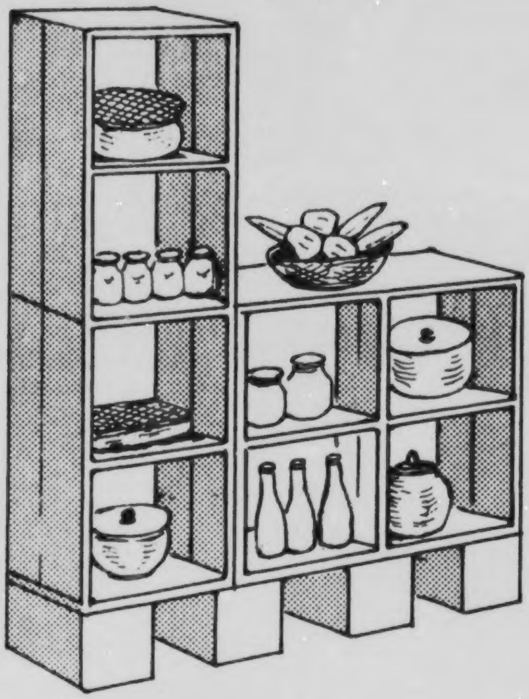
THE STORAGE AREA 8

CONTAINERS FOR FOOD 10

WAYS TO KEEP FOODS COOL... 12

STORING VEGETABLES FOR WINTER USE 16

DEMONSTRATIONS 19



STORING FOOD AT HOME

You work hard when you grow food and prepare it to eat. If you buy food it takes money. You do not want to waste it. To keep food clean and safe in the home you must have good storage space, suitable containers and a way to keep foods cool and dry.

HOW TO CARE FOR VARIOUS KINDS OF FOOD

Different kinds of food need special care. Treating each food properly will make it keep longer.

Dairy Foods

Fresh milk is safe if it is boiled. If you do not have refrigeration, boiled milk will keep longer than milk that has been pasteurized. Cream will keep longer if it is boiled.

After milk and cream are boiled, then cooled, store them in clean containers in a cool place. In warm climates these foods will keep longer if stored in an iceless or mechanical refrigerator.

If canned, evaporated, condensed or dried milk is used, add water and boil for 10 minutes. Unsafe milk should not be added to hot or cold beverages.

Cooked foods using milk or cream spoil very quickly. Use them immediately in hot climates. Do not store.

Dried milk in its original containers will keep for several months in a cupboard or on open shelves. Close the container properly after using. The milk will take up moisture and become lumpy if exposed to air. Then it is hard to mix with water and food.

Canned evaporated milk and condensed milk may be stored at room temperature until opened. Before opening shake the can to avoid separation of the milk. After opening, cover tightly and store in an iceless or mechanical refrigerator if possible.

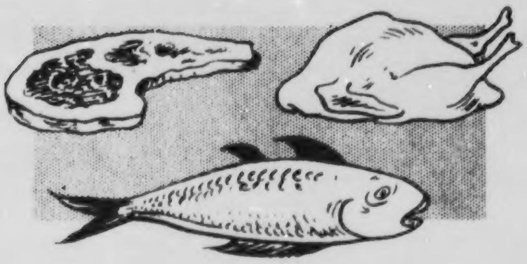
After dried milk has had safe water added to it, store it the same as fresh fluid milk.

Butter should be kept in a cool place, in a covered container.

Keep hard cheese in a cool place. Wrap tightly in a clean cloth or paper to keep out air. Put in a box or metal container if possible. Before using, trim away any mold that forms on the surface.

Soft cheeses should be stored in a tightly covered container in a cool place.

Fresh Meat, Fish, Poultry

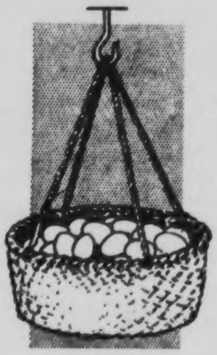


The moist surfaces of dressed meats, poultry and fish attract bacteria that cause spoilage. Keep these foods clean, cold and dry. They should be allowed some air when stored. Wrap loosely with a clean cloth or paper. Wipe or scrape off any dirt before wrapping.

These foods spoil very quickly. They should not be kept long in warm, moist climates.

Rubbing cured or smoked meats with dry baking soda may help prevent molding. If meat is attacked by insects and shows spoilage, cut out the bad part.

Eggs

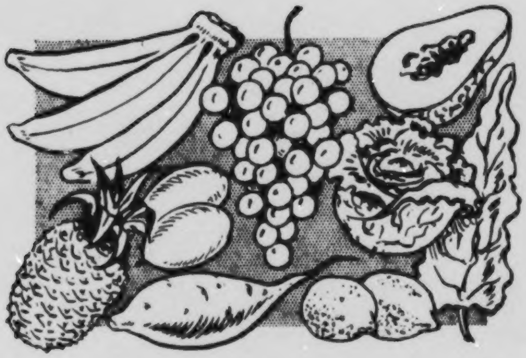


Sort eggs as soon as they are brought from the poultry yard or market. Cracked or spoiled ones should be removed for immediate use. Rough handling, changes in temperature, and fertility affect the keeping quality of eggs.

Keep eggs in a covered container in a cool, dry, clean place.

Wash all eggs in cooled boiled water just before using. Water removes the thin film on the shell which protects the egg. This film helps to stop evaporation, the entrance of harmful bacteria and the absorption of odors.

Fresh Fruits and Vegetables



Most fresh fruits and vegetables need to be kept clean and in a cool place with good air circulation. Such conditions help to prevent spoilage.

Sort fruits and vegetables before storing. Use bruised ones immediately, throw away decayed or spoiled ones. Ripe fruits and vegetables should be used in 2 or 3 days. Allow them to ripen in the open air out of the sun. Wash fruits and vegetables before using them.

Fruits and vegetables stored in boxes, baskets, barrels and bins should be sorted frequently to remove decayed or spoiled ones. Some fruits such as oranges and apples may be wrapped in separate papers. The wrappers help to keep the fruit from bruising each other and also help to avoid mold.

If possible, soft fruits such as berries, peaches, and plums should be spread out on clean wrapping paper or in shallow pans or platters rather than deep containers.

Fats and Oils

Keep all fats cool, covered and in lightproof containers. Heat, light and air help to make fats rancid.

Mold on the surface of fats shows moisture is present. Remove the mold carefully. If possible, heat the fat to drive off the moisture.

Foods like nuts and chocolate which have some fat may get rancid. Nuts keep best when left in shells. Keep these foods cool and clean, in lightproof containers.

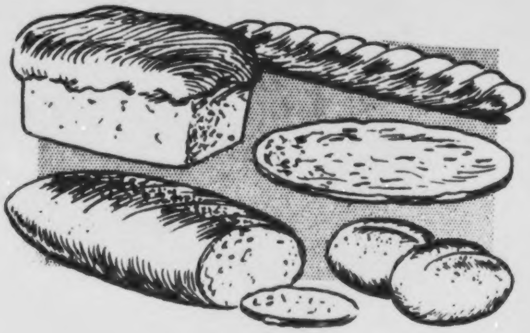
Baked Goods

Cool bread, cakes, pies, cookies and other baked goods rapidly after they are taken from the oven. Be sure the place is free from dust and insects. Wrap bread with a clean cloth or paper.

Store baked goods in a clean tin box or other suitable container off the floor.

Molds grow on bread. Scald and air the bread box at least once a week. In hot humid weather do not shut the bread box tightly when it is filled with fresh bread.

Store bread, crackers, and crisp cookies in separate containers to retain crispness.



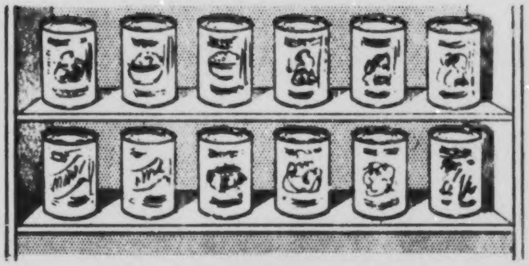
Dried Foods

Dried meats and dried fruits and vegetables may be kept in closely woven cloth bags. Hang these bags of food in a cool, dry place. If these dried foods are hung in a damp place they are likely to mold.

Open bags of dried foods should be kept in a pottery or metal container. Cover the container tightly to keep out insects and rodents.

Canned Goods

Canned foods should be kept in a clean, dry, cool place. Arrange so air may circulate around the cans. Canned vegetables and fruits may leak. Destroy any swelled or leaking cans. Clean off other cans left on the shelf. Wash the shelves with hot soapy water.



Leftover Cooked Foods

Moist cooked foods, particularly those made with milk, eggs, meat or fish, spoil easily. Leftover cooked foods should be cooled quickly. Store in an iceless or mechanical refrigerator or a cool place. Use at the next meal.

Leftover cooked foods should be brought to a boil or thoroughly heated before being served again.

When is Food Spoiled?

Food generally shows when it is spoiled. Check it often. It may have an unpleasant appearance, taste or smell.

Look for these signs of food spoilage:

- slime on the surface of meats
- bad odors
- sour taste in bland foods

It is important to destroy spoiled foods as soon as they are found. Throw away any food that has a bad smell. Chopped meat, eggs and sea food usually spoil rapidly. Watch grains for signs of weevils. Look for insects and mold in dried foods. Destroy the part which has insects or mold at once.

If any jars or cans of food are leaking or bulging, get rid of the food. It can make you sick.

WHY FOOD SPOILS

Foods may be spoiled by:

- bacteria and molds
- parasites of meat animals
- insects and rodents
- warm air, freezing temperatures and light
- too little or too much moisture

Dirt and careless handling increase food spoilage. Good care of food in the home can help avoid waste. Keep food in a clean and safe place.

Bacteria are living things so small you can't see them.

Many are harmful. They live almost everywhere. Sometimes food is made unsafe because bacteria causing disease have gotten into it. Food can carry these diseases:

- amoebic dysentery and other dysenteries
- typhoid
- botulism
- tuberculosis
- diptheria
- salmonellosis

People may appear healthy and still carry these disease bacteria in their bodies. When they handle food, the bacteria may be passed on to the food. Then the food is unsafe for others.

Bacteria in foods may be destroyed by:

- drying
- heating
- exposure to the sun
- removal of air
- chemical substances

Molds can be harmful. They grow where it is damp. Molds look like delicate velvety or powdery growths of various colors spread through food.

If meat or cheese have mold on the surface, cut away the moldy part. The food that is left may be eaten. Throw away moldy canned foods.

Parasites, such as tapeworm and trichina, live in meat animals. The tiny larvae of these parasites may be in the lean meat. They are waiting to complete their development in the human body or some other place.

Thorough cooking of meat is the best way to destroy these parasites. Preservatives such as salt and smoke do not destroy them. There is great danger in eating uncooked sausages even though they have been smoked.

Bacteria need water to live. Removing water prevents their growth. Foods are dried to preserve them. Then they are kept dry. Some foods that are dried are meat, fish, beans, peas, grapes, figs and currants. They are dried in the sun or smoked over a fire.

Cooking foods destroys many kinds of bacteria.

When foods are canned, air is removed and the container is sealed. This process removes air that many bacteria need to grow.

Many chemical substances either destroy certain harmful bacteria or prevent their growth. For food, two of the simplest to use are salt and sugar. Salt is used for meat and vegetables. Sugar is used to preserve fruits.

Insects and Rodents may destroy foods. They may also leave dangerous bacteria on them.

The house fly may spread typhoid fever, cholera, dysentery and tuberculosis.

The "fly specks" often found on food or dishes may have disease germs and the eggs of dangerous parasites in them.

The rat destroys many types of food.

To help keep these pests out of food:

- keep it covered or in closed containers
- get rid of garbage and trash

Poisoned bait, powders, or sprays may be necessary to rid storage areas of household pests.

Ask your health department sanitation or other official to tell you what pesticide to use, where to get it and how to use it. These people have special training on how to control household pests. They want to help you.

Use pesticides with care. They are POISONOUS to people and animals. Keep them out of reach of children. Never store insecticides in the same place you store food. Always wash off any dust, spray, or solution that gets on you. When spraying remove dishes, pots and pans, other cooking utensils, and food from the room. If you have a cupboard with solid, tight fitting doors store the dishes and cooking equipment here while spraying. Never use oil spray or solutions near a fire.

Temperature affects food. Many fresh fruits ripen rapidly when left in a warm room. If they are left at room temperature too long after they are ripe they spoil. Nuts become rancid more quickly if left in a room where the air is warm.

Freezing temperatures can ruin the texture and flavor of some foods. Frozen potatoes are watery and have an unpleasant flavor.

Light makes fresh fruits and vegetables ripen faster. Some canned and dried foods keep their color longer in lightproof containers such as tin cans.

Moisture in the air is necessary where green leafy vegetables are stored. If there is not enough moisture in the air, the moisture from these vegetables will evaporate into the air. Then they become wilted or limp. These vegetables keep best when stored in an iceless or mechanical refrigerator.

Crackers and cookies lose their crispness by absorbing moisture from the air. They should be stored in a dry place where there is no moisture in the air.

THE STORAGE AREA

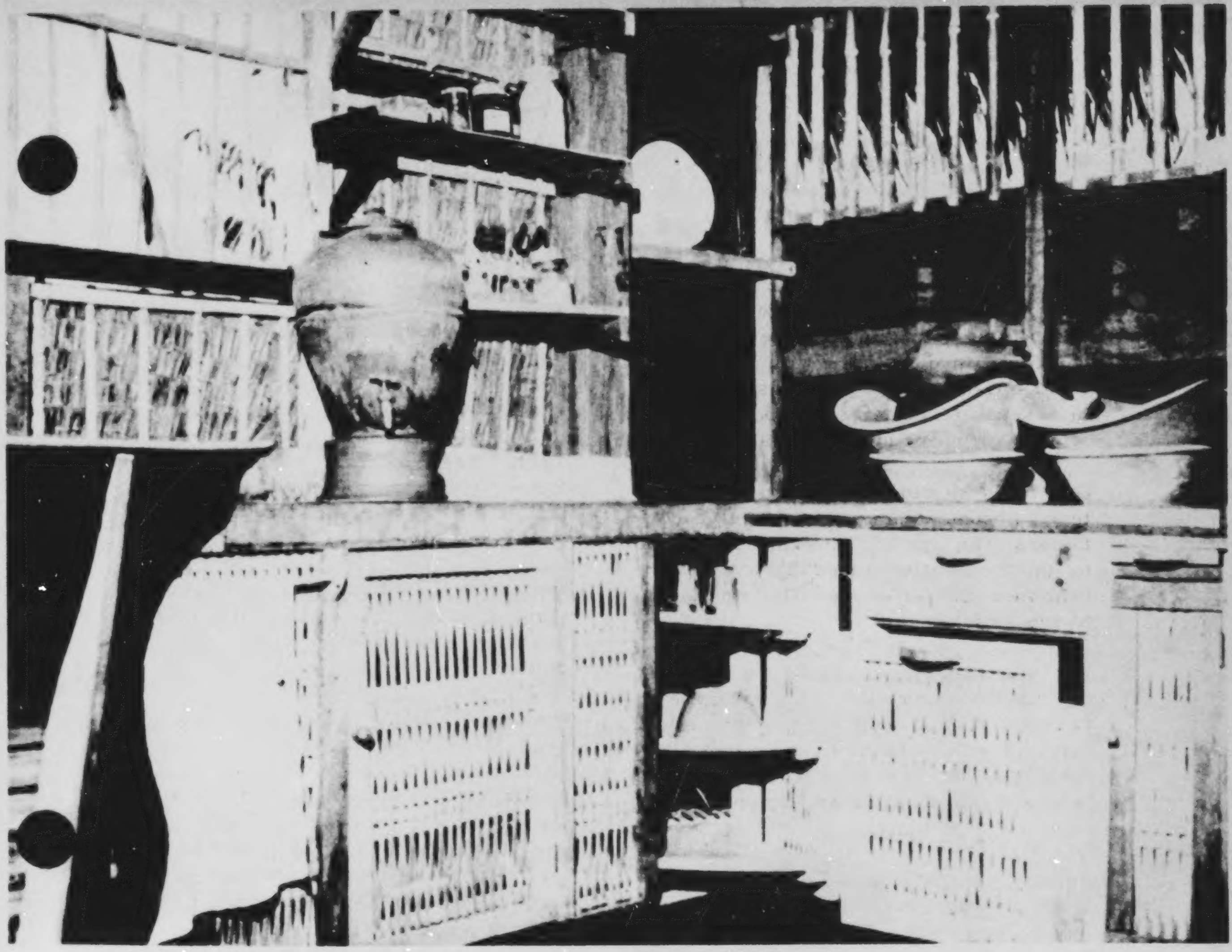
A good storage area is:

- well ventilated
- cool and dry
- free of rodents and insects
- clean and neat

You may store food in the kitchen in cupboards on open shelves, or in a closet with shelves. Sometimes a separate room next to the kitchen, called a pantry, is used for storing food. Also cellars, caves and outdoor pits are used in some parts of the world for food storage.

Good Ventilation

Ventilation is important for good food storage. Good circulation is needed around food to carry off odors, to keep the right temperature and the right amount of moisture. Food needs to breathe. Good ventilation helps to keep food cool.



In this Philippine home some foods are stored on open shelves. Other foods are stored in cupboards with vented doors so air can circulate.

Keep the Storage Area Cool and Dry

Many fresh fruits soon spoil in a warm place. Then they are unsafe to eat. Cooking oils, table fats, and other foods with fat in them may get a stronger flavor if stored in a warm place. A dry storage area helps to avoid mold on foods such as bread, cheese and berries. It also prevents rust on tin cans in which food may be canned or stored.

Keep the Storage Area Clean

There is no substitute for cleanliness. Scrub shelves, cupboards and floors often. Paint, whitewash, or line shelves with clean paper. Clean the walls, then paint or whitewash them. Keeping the storage area clean helps to keep away household pests.

Remember, cleaning destroys insecticides. Apply them after you clean not before.

CONTAINERS FOR FOOD

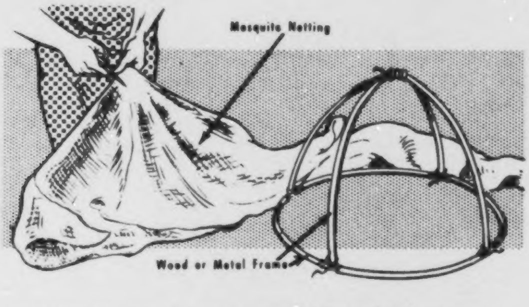
It is very important to have good containers for storing food. Some foods must be stored in containers with tight fitting covers. Generally each food is best stored in a separate container. Label food containers to save time and avoid accidents.

Dry foods should be stored in glass, pottery, wooden, tin or other metal containers. The type of container will depend on the food to be stored and whether the container can be washed. Dry tin quickly to avoid rust.

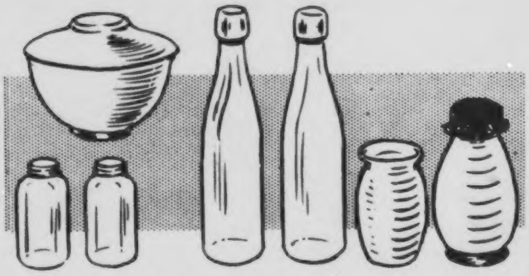
For moist and watery foods the choice of containers is more limited. Leakage must be avoided. You must consider the effect acids in watery foods have on metals. A container that can be washed and aired before fresh supplies are stored in it is best.

Pottery jars are good for storing many kinds of food. Jars that are glazed on the inside are best. They can be washed easily. If the jars do not have a tight fitting cover, make one. Use a plate, saucer, or piece of metal. A good cover helps to keep out insects and rodents.

Glass jars with tight lids are also good for storing many foods. Foods that are affected by light should not be stored in glass jars unless the jars can be stored in a dark place. Glass jars can be used again. Wash them in hot soapy water. Rinse them with hot water that has been boiled for 10 minutes. Dry them in the sun if possible.



This diagram shows how to make a food cover.



All of these containers may be used to store foods.

Bottles are good for storing liquids and some dry foods. In many countries people preserve fruit and vegetable juices in bottles.

Coconuts, gourds and calabashes may be used for storing some dry foods for a short time. Covers can be made of closely woven materials. Insects tend to eat away the soft lining of these containers. So they are not good for storing meal and flour for long. Wash these containers often to keep out weevils. Dry in the sun.

A simple cupboard can be made from a wooden box with shelves. The door is made of chicken wire so air can circulate. Use it to store root vegetables and some fruits.

Tin cans of all sizes are good for storing foods. Sometimes the lids of cans containing food have been removed with a hand or mechanical can opener. Then the lid does not fit. If you use these cans to store food, make a cover out of a plate, saucer, or a piece of metal.

Use a food cover to keep out flies and other insects when you store food on a table in an uncovered container. You can make a food cover out of mosquito netting and a metal or wooden frame. Store foods this way for a short time only.

In Ethopia covered baskets are hung from the rafters and used to store dried fruits and vegetables and bread.

A bread box may be made of metal or wood. Punch holes in each end for air circulation.

Open baskets are good for storing fresh fruits and vegetables for short periods. A tight cover is not needed for these foods.

Care of Food Containers

Food containers must be kept clean. Wash and dry containers before fresh supplies are stored in them.

Water for washing containers should be clean and hot. Boil it for 10 minutes. Use soap. Rinse the containers carefully with clear clean water. Dry them in the sun if you can.

Do not store food in containers which have held kerosene, gasoline, heavy oil or insecticides.

Containers holding food that does not need to be kept cool may be stored on shelves or on a table.

Keep Foods Cool

Some foods are quite perishable. They are:

- fresh meat, fish and poultry
- some fresh fruits and vegetables
- milk, butter, margarine and cream
- leftover cooked foods

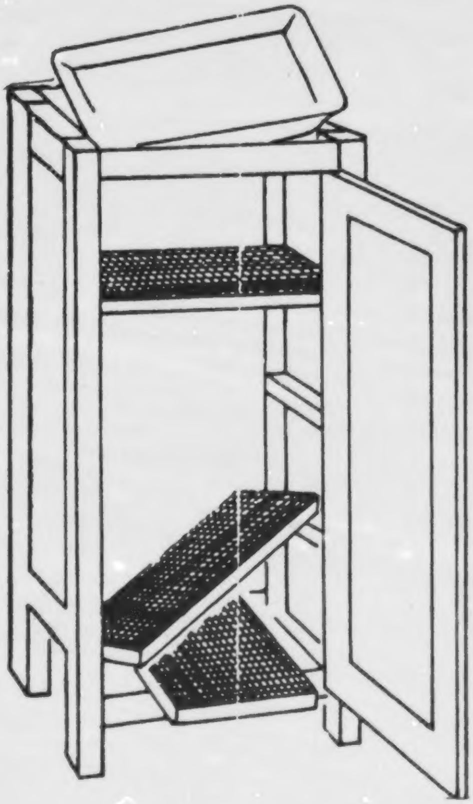
In a warm climate it is best to buy these foods in small quantities and use them quickly rather than store them. If you have to store these foods, keep them as cool as possible. This is one way to keep them fresh and prevent spoilage.

WAYS TO KEEP FOOD COOL

THE ICELESS REFRIGERATOR

You can make this kind of food refrigerator at home. Here are directions.

1. Make a wooden frame (maximum size 56x12x14 inches.)
2. Cover with screen wire or heavy cloth such as canvas. If possible, use non-rusting wire. If it is not available, woven grasses, cloth, or branches might be used.
3. A door should be made for one side and mounted on hinges. It can be fastened with a wooden button or latch. The bottom of the door should fit tightly.

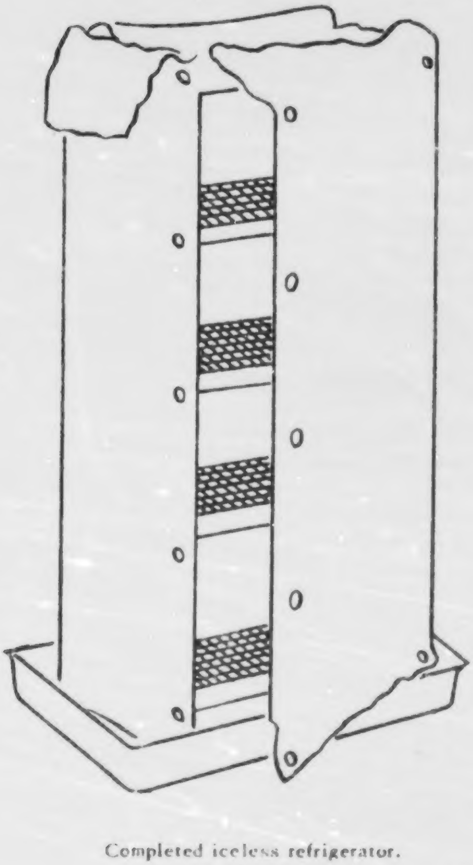


Framework of an iceless refrigerator.

BEST COPY AVAILABLE

4. Make adjustable shelves of light wooden frames covered with poultry wire or woven native grass or other mesh material. Rest these shelves on side braces.

5. Place a 4 inch deep pan on top. You can make one from kerosene cans, or a bucket. Stand the frame in a container of water. This may be a kerosene can.



Completed iceless refrigerator.

6. Make a cover to fit the frame. Burlap, canton flannel, or a heavy coarse cloth may be used.

7. Button the cover around the top of the frame and down the side on which the door is not hinged.

Use large headed tacks or lace with a cord through worked eyelets.

8. On the front side, fasten the cover to the top of the door instead of the frame and down the latch side. The large hem should overlap the door closing.

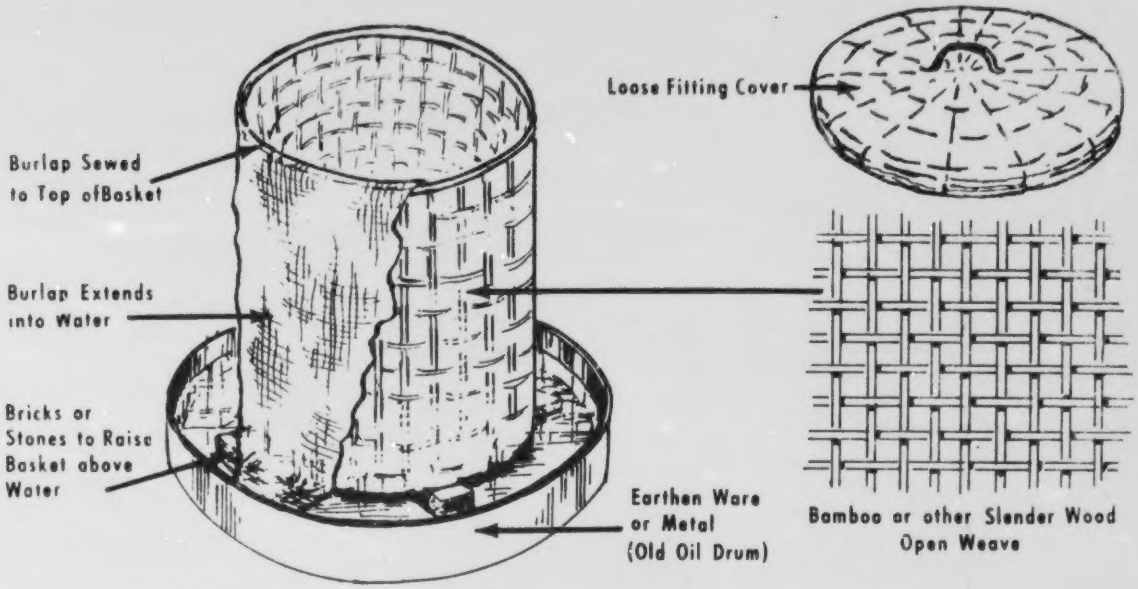
9. The bottom of the cover should extend down into the lower pan.

10. Sew 4 double strips of cloth 8 to 10 inches wide to the upper part of the cover. These strips form wicks that dip over into the upper pan.

11. Keep the upper pan filled with water. Dampen the cover by dipping it in water or throwing water on it.

12. Paint the woodwork, pans, and shelves to help keep the iceless refrigerator clean. Oil wooden parts with linseed or other oil used on wood if paint is not available. Let dry in the sun a few days before using.

13. Clean and sun the iceless refrigerator once a week. Wash the cover and sun it once a week. You may wish to make 2 covers. A fresh one can be used each week and the soiled one washed and sunned.


Loose Fitting Cover
Burlap Sewed to Top ofBasket
Burlap Extends into Water
Bricks or Stones to Raise Basket above Water
Earthen Ware or Metal (Old Oil Drum)
Bamboo or other Slender Wood Open Weave

This diagram shows how to make a simple iceless cooler.

AN ICELESS COOLER

You will need:

A basket with loose fitting cover. May be made of bamboo or other slender wood with open weave. The size depends upon the family's needs.

A container to set the basket in. This may be square or round, of earthenware or metal. A clean oil drum could be used. This container should be about a foot high and wider than the basket.

Bricks or stones.

Burlap of the soft jute type.

Building the Cooler

1. Select a cool place in the kitchen away from the stove for your cooler.
2. Place the outer container here.
3. Arrange the bricks or stones in the container so the basket will balance evenly on them.
4. Sew burlap around the rim of the basket. Let it hang loose around the bottom and extend into the earthenware or metal container.
5. Sew burlap loosely over the cover of the basket.
6. Set the basket on the bricks.
7. Place food in the basket and cover.
8. Put water in the bottom of the container. Wet the cover of the basket the first time the basket is used. Later do this just occasionally.
9. The basket should not be in water. The burlap cover should hang down into the water.

A WINDOW BOX

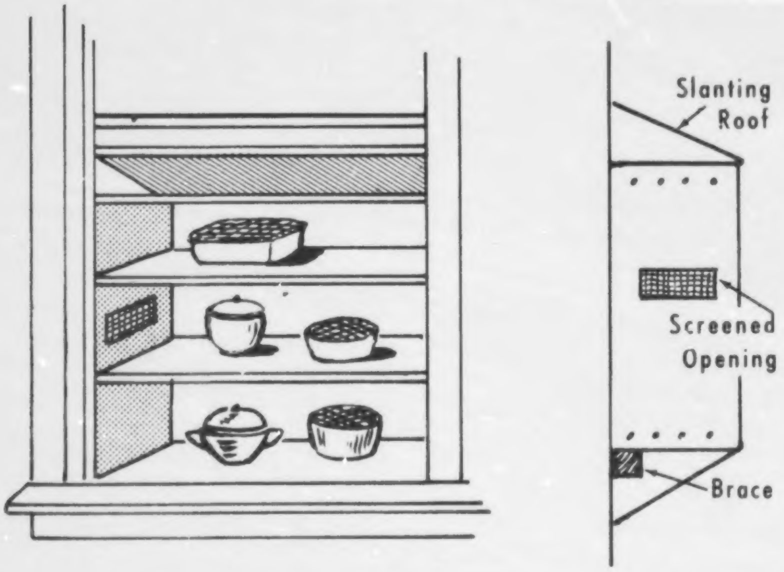
In some countries window boxes are used to store foods during the cool months of the year. They must have good ventilation and tight covers to keep out rain or snow. An ordinary light wooden box may be used or you can make one.

Installing A Window Box

1. Fit the box to the outside of the window. The window is the door. Select the window that is in the shade longest during the day.
2. Put a shelf on the window sill. Support the shelf with wooden braces.
3. Set the box on the shelf.
4. Fasten the box to the window case with screws or nails.
5. Fit a sloping top over the box to shed the rain.
6. Make holes in the end of the box so air can circulate and screen them.
7. Shelves may be made of heavy screening, poultry wire, or wood.
8. Rest the shelves on cleats which are fastened to the sides of the box.
9. Paint the box inside and out. It will be easier to keep clean. Wash the inside with soap and water from time to time.
10. Food placed in the box should be in clean covered containers.

A food storage closet may also be built on the outside of the house. You can make it open into a room by a special door through the wall.

These diagrams show how a window box looks from both inside and outside the house.



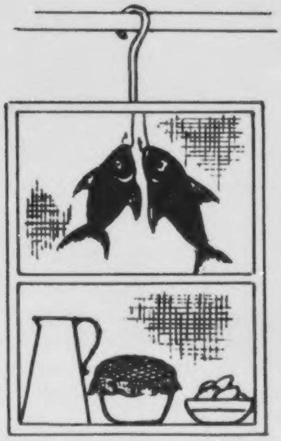
OTHER WAYS TO KEEP FOOD COOL

A mechanical refrigerator is ideal for storing perishable foods. However, refrigerators are not available in all parts of the world. Where a refrigerator is used, it needs special care.

Clean and defrost it regularly. To do this, turn it off. Allow the ice to melt. Wash inside the refrigerator thoroughly, using warm water and soap. Pay special attention to the corners.

An ice chest can be made at home. Line a wooden packing case with galvanized iron.

This is a simple country iceless cooler used in India. You can make it easily with two different sized pottery jars. Put water between the jars. Cover the top with palm, banana or other large leaves.



Hanging food safes are used in the Caribbean area and Africa.

You will need to put insulation between the wooden box and iron to keep out heat. Use sawdust, cork or similar material. Make a hole at the bottom for water to drain out as the ice melts. Keep the ice chest clean. Wash it with soap and water often.

A wooden keg lined with cement makes a good food cooler. You may store leafy vegetables such as spinach and lettuce here. The vegetables can be kept in a string, paper or plastic bag. Hang the bags on a hook screwed into the cover of the keg. Fill the bottom with water.

On some farms cold water pumped from deep wells for livestock may first be used to cool foods, by running it through a suitable storage box. Also a house or box may be built over a spring or brook to keep foods cool.

Special wells or caves are sometimes built for cool storage of foods.

STORING VEGETABLES AND FRUITS FOR WINTER USE

In some countries the climate is too cold to grow foods the year around. Many farmers and gardeners in parts of the world have found good ways to store some vegetables and fruits.

Some of their methods may be ones you will want to study and tell others about. Your agricultural advisor can help you decide which type of storage is best for your climate and the foods grown in your area.

Fruits and vegetables can be stored in pits, trenches, outdoor cellars or caves to keep them through the winter. Here are some kinds of storage you can build.

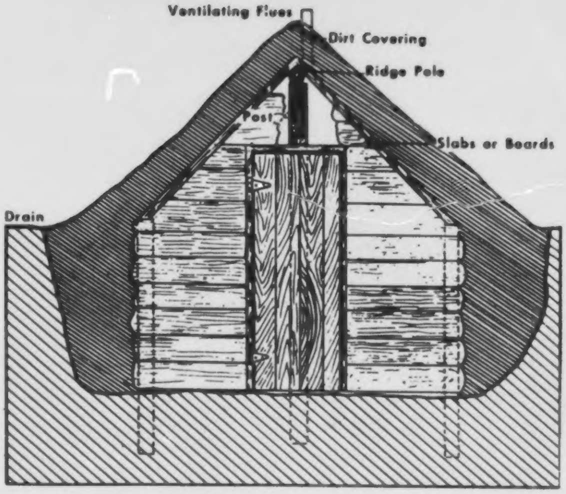
POST-PLANK CELLAR

This type of storage cellar is low in cost, but does not last long as the wood will decay.

1. Dig a hole big enough to hold the foods to be stored and 4 feet deep.
2. Keep the soil piled nearby and use it to cover the roof and bank the sides.
3. Set two rows of posts of the same height in the bottom of the pit near the side walls.
4. Set a middle row of posts about 5 feet higher than the outside posts. Put a ridge pole on the center row. Lay planks on the two outside rows.
5. Next place a roof of planks.
6. Close the ends and cover the whole cellar except the door with soil. The door may be made of planks or other durable material. The thickness of the cover depends upon the climate.

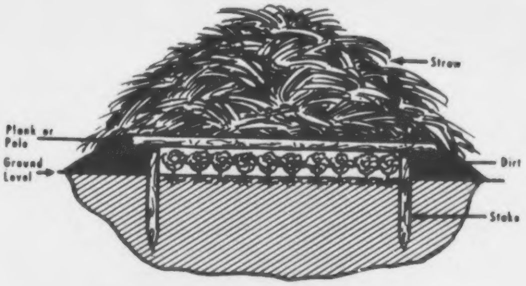
CABBAGE PIT

A good way to store cabbage, collards and other greens is in a pit made of stakes and poles covered with straw.



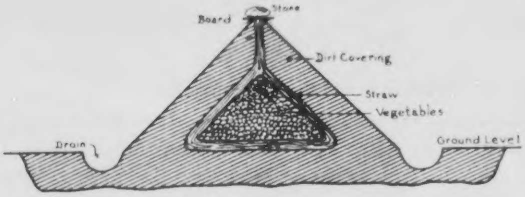
This diagram shows how to make a post-plank cellar.

1. Dig a trench long enough to hold the number of cabbages to be stored.
2. Pull the plants by the roots and set them side by side in the trench.
3. Pack soil around the roots.
4. Build a frame about 2 feet high around the bed. This may be of boards, poles or stakes driven into the ground.
5. Bank the soil around the frame.
6. Place poles across the top to hold the covering of straw, hay, leaves or corn fodder.



This diagram shows how a cabbage pit is made.

CONE-SHAPED OUTDOOR PITS



This diagram shows how to build a cone-shaped outdoor storage pit.

1. Build the pit either on the surface of the ground, or in a hole 6 to 8 inches deep in a well-drained location.
2. Spread a layer of straw, leaves or similar material on the ground.
3. Stack the food to be stored on the litter in a cone-shaped pile.
4. Cover the food with more straw, leaves or similar material.
5. Cover the entire pile with 3 to 4 inches of soil.

A cone-shaped pit used for storing potatoes.

6. Firm the soil with the back of a shovel to make it water proof. More soil may be needed in very cold weather.
7. Dig a shallow drainage ditch around the pit to carry away water.
8. Ventilation or air circulation is necessary.

Small pits with a few bushels of vegetables will get enough air if the straw between the vegetables and soil extends through the soil at the top opening. To keep out rain, cover the top with a board or piece of sheet metal held with a stone.

Large pits - Place two or three rough boards or stakes up through the center of the pile of vegetables to form a flue. Cap the flue with two boards nailed together at right angles.

9. Opening the pit - Once the pit is opened it is best to remove all the food at once. It is better to make several small pits rather than one large one, and place small amounts of vegetables in each pit. When several kinds of vegetables are stored in the same pit, separate them with straw or leaves.
10. Pits should be made in a different place every year to avoid decay from spoiled food left in an old pit.

DEMONSTRATIONS

Show how to:

Make food covers of mosquito netting and bamboo or barrel hoops.

Make shelves from wooden boxes.

Make a small vegetable cupboard with chicken wiring on the door from a box.

Make an iceless refrigerator.

Make an outdoor pit and store food in it.

Make a cupboard with solid doors to store dishes and cooking utensils.

A home demonstration agent in Iran is showing how to make shelves from apple boxes.

Suggestions to Help You Give a Good Demonstration

Prepare yourself carefully. Know more about the subject than you plan to teach.

Outline your demonstration step by step and write down exactly what you will say at each step.

Practice your demonstration until you can do every step without hesitation.

Use only equipment and materials available to village families.

Arrive at your meeting place ahead of the women and arrange all materials for your demonstration neatly and in the order you will use them.

Plan for your audience to be seated so that everyone can see and hear easily.

Use visual aids in your demonstration if they will help to make your presentation clearer.

Ask one of the women to assist you. This helps develop leadership.

Evaluate your own demonstration

(1) Did the women learn how to do what you demonstrated?

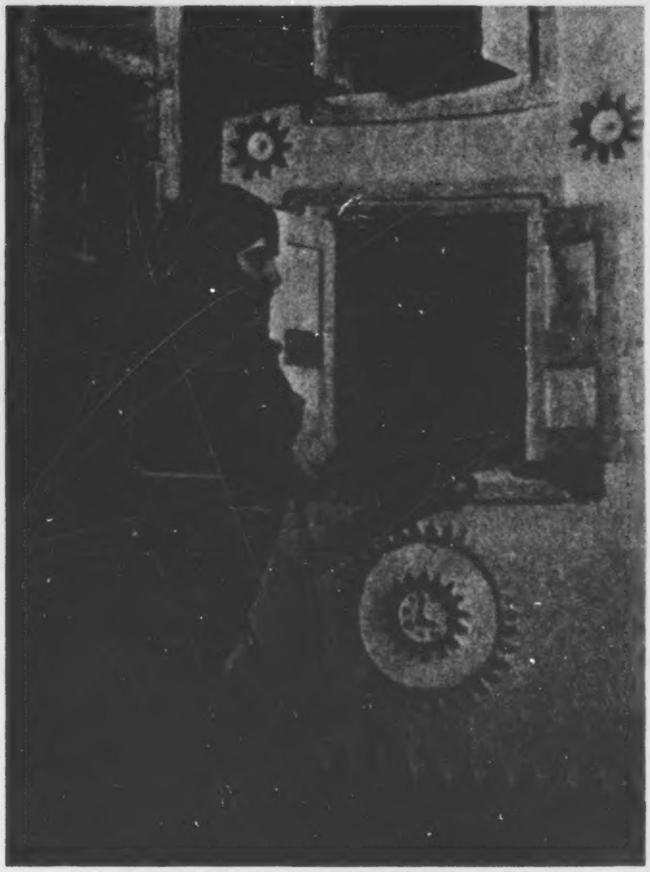
(2) What evidence was given that the women plan to carry out this practice in their homes?

(3) How could this demonstration be improved?

REMEMBER....

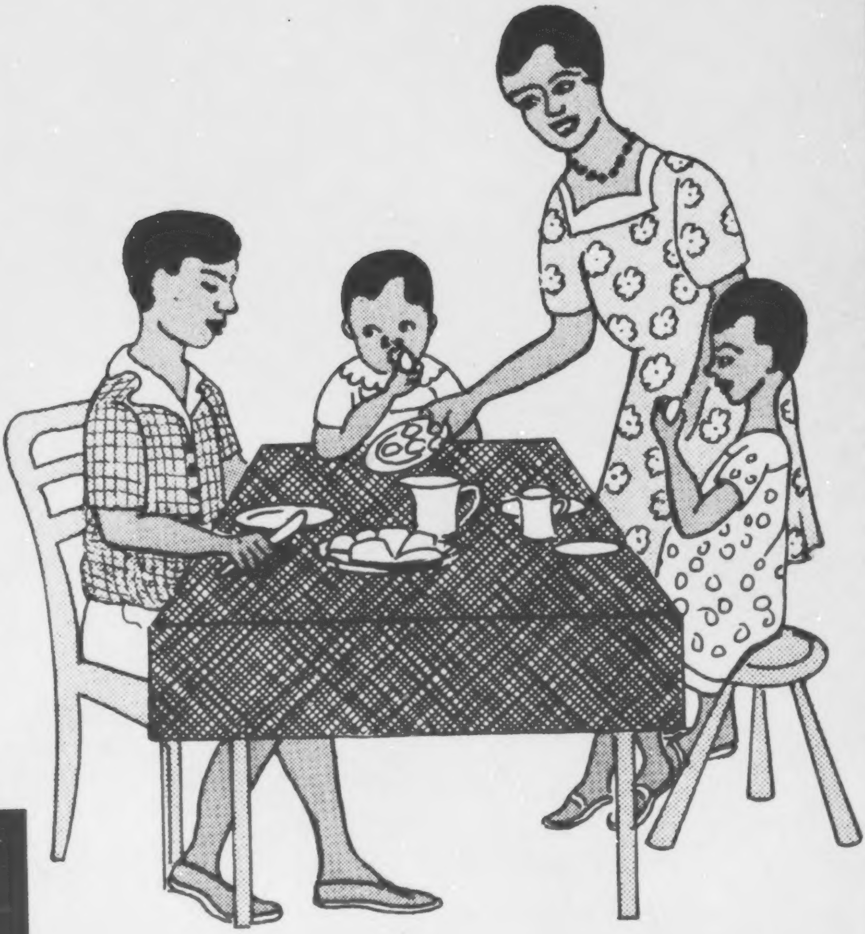
To make food safe

- **Keep it clean**
- **Store in a cool, dry place**



This fourteen-year-old girl in India built this movable clay pantry.

- Home Storage of Vegetables--Farmer's Bulletin No. 1939, U. S. Department of Agriculture, Washington, D.C.
- Storing Perishable Foods in the Home--Home and Garden Bulletin No. 78, U. S. Department of Agriculture, Washington, D. C.
- Homemaking Around the World--International Cooperation Administration (AID) Washington, D. C.
- A First Hygiene Book - For Village Schools in Tropical Regions--by Shelia Jamison. Produced in association with South Pacific Commission Literature Bureau, New Hebrides.
- Housing and Home Improvement in the Caribbean--By Elsa Haglund, 1958. Published by FAO of the United Nations and the Caribbean Commission.
- Food - The Yearbook of Agriculture--U. S. Department of Agriculture, Washington, D. C.
- Food for Peace Around the World--Department of State, Agency for International Development, Washington, D. C.



AN AID TO EXTENSION AND VILLAGE WORKERS IN MANY COUNTRIES

FES
AID

SANITATION SERIES
NUMBER 8

BEST COPY AVAILABLE

167

The information in this [illegible] periences of extension [illegible] health workers in [illegible] ideas to help you [illegible] families [illegible] and serve safe meals.

Use this material in any way best suited to [illegible] needs.

BY KATHRYNE SHEEHAN

Appreciation is expressed [illegible] health, sanitation, home [illegible] mation personnel of [illegible] Development, spec[illegible] sion Service, and [illegible] cies.

CONTENTS

	Page
Make Meals Safe	3
Some Illnesses Are Caused by Food	4
Use Safe Water	5
Foods Eaten Cooked	5
Foods Eaten Raw	5
Foods Grown in Night Soil	5
Foods Sprayed with Pesticides	6
Leftover Foods	6
Use Safe Milk	6
How to Make Milk Safe at Home	6
How to Use Dried Milk	7
Select Good Quality Foods	8
Store Food In A Clean Place	11
Keep Yourself Clean	12
Keep Equipment and Dishes Clean	13
Keep the Cooking and Eating Area Clean	14
Make Eating a Pleasant Time	15
Equipment Is Important	16
Equipment for Preparing Food	17
Equipment for Cooking	19
Equipment for Serving	20
Equipment and Supplies for Cleaning Up	21
Storage Equipment	22
Demonstrations	23

BEST COPY AVAILABLE

AN AID TO EXTENSION AND VILLAGE WORKERS IN MANY COUNTRIES

FES
AID

SANITATION SERIES
NUMBER 8

BEST COPY AVAILABLE

The informa[illegible] this b[illegible]
periences [illegible] extension [illegible]
health workers in [illegible]
ideas to help you [illegible]
and serve safe meals [illegible]

Use this material in any way best suited to [illegible]
needs.

BY KATHR[illegible]

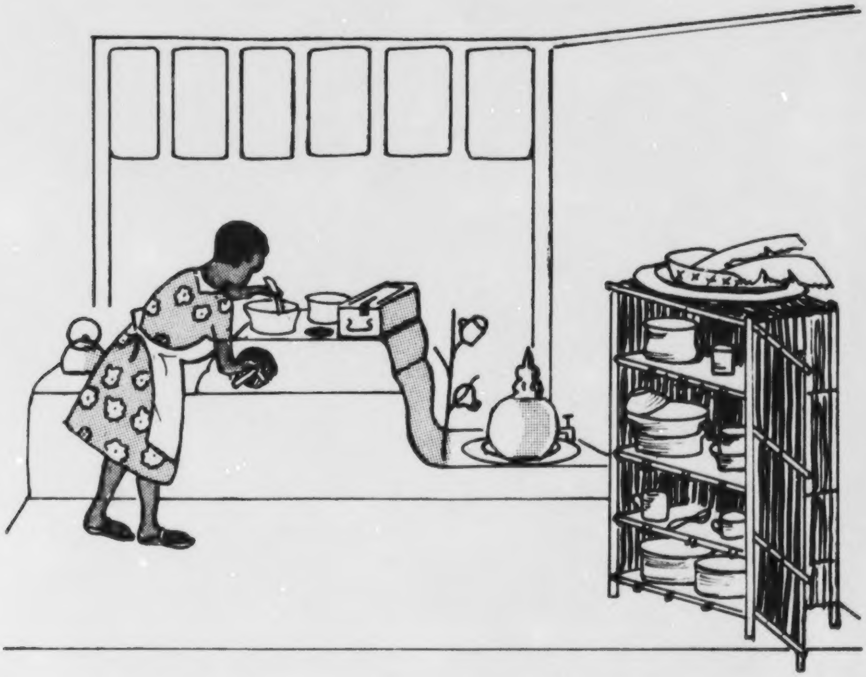
Appreciation is [illegible]
health, sanitation [illegible]
mation personnel [illegible]
Development [illegible]
sion Service, and [illegible]
cies.

CONTENTS

	Page
Make Meals Safe	3
Some Illnesses Are Caused by Food	4
Use Safe Water	5
Foods Eaten Cooked	5
Foods Eaten Raw	5
Foods Grown in Night Soil	5
Foods Sprayed with Pesticides	6
Leftover Foods	6
Use Safe Milk	6
How to Make Milk Safe at Home	6
How to Use Dried Milk	7
Select Good Quality Foods	8
Store Food In A Clean Place	11
Keep Yourself Clean	12
Keep Equipment and Dishes Clean	13
Keep the Cooking and Eating Area Clean	14
Make Eating a Pleasant Time	15
Equipment Is Important	16
Equipment for Preparing Food	17
Equipment for Cooking	19
Equipment for Serving	20
Equipment and Supplies for Cleaning Up	21
Storage Equipment	22
Demonstrations	23

BEST COPY AVAILABLE

PREPARE AND SERVE SAFE MEALS



As a homemaker, you have the important job of preparing and serving safe wholesome meals for your family. There are many things you can do to make food safe.

When you prepare and serve food it is important to--

- select good quality food
- keep yourself clean
- keep dishes and equipment clean
- keep the cooking and eating area clean.

Food can become unsafe to eat if it is--

- served by a person carrying disease germs
- served in soiled dishes
- eaten with dirty utensils and hands.

Keep everything clean. Cleanliness helps to keep away disease germs. Clean food is likely to be safe food.

MAKE MEALS SAFE

Some foods are eaten raw, others are cooked. Either way, they should be clean. You can prepare foods to make them safe for you and your family.

Some foods spoil quicker than others.

Foods made of milk, eggs, meat, poultry, fish or shellfish may contain harmful bacteria that grow rapidly. These bacteria can cause food to spoil. Spoiled foods will make you sick.

When preparing these foods:

- store them for a very short time
- prepare in clean containers
- cook thoroughly
- serve immediately
- don't save leftovers.

Some Illnesses Are Caused by Food

[redacted]	FOODS USUALLY INVOLVED	WAYS TO PREVENT SPREAD BY FOOD
[redacted]	Moist or prepared foods; milk, other dairy products or water contaminated with excreta.	Strict personal cleanliness in food preparation; keeping moist foods cool during storage periods; cooking foods before serving; getting rid of flies. Persons with dysentery should not handle food. Dispose of human wastes safely.
[redacted]	Raw contaminated milk, dairy products, or meat.	Get rid of brucellosis from livestock by vaccinating young animals and slaughtering infected older animals. Boil milk used to drink or to make other dairy products.
[redacted]	Milk contaminated by humans with the illness.	Make the milk safe by boiling. Search for the person carrying the illness and isolate him from other people.
[redacted]	Foods contaminated by a discharge from the mouth or nose of a person who has disease germs in his body, whether he is sick, about to get sick, or immune.	Boil milk used for drinking or to make other dairy products. Keep persons with the disease from handling food. Separate them from other people.
[redacted]	Milk from cows with udder infections caused by these organisms.	
[redacted]	Home canned foods, or sometimes commercially prepared foods.	Cook canned meat and vegetables thoroughly before serving. Boil 15 minutes and stir to make sure you heat all parts.
[redacted]	Water contaminated with sewage. Moist food contaminated with human excreta.	Protect your water supply. Use safe drinking water. If you are not sure water is safe, boil it for 10 minutes. Be clean in preparing food. Dispose of human excreta properly.
[redacted]	Raw or undercooked pork and pork products.	Cook these foods thoroughly. Cook garbage fed to swine. Get rid of rats in hog lots.
[redacted]	Cracked or dirty eggs contaminated with poultry excreta, meat meal, bone meal, or fish meal. Poultry meat contaminated by unsanitary handling.	Use only clean eggs with sound shells. Soiled eggs should be washed. Handle poultry meat and eggs under clean conditions. Store them in a cold place. Cook thoroughly and refrigerate if not eaten at once. After handling raw eggs or poultry, wash your hands thoroughly.

USE SAFE WATER

You need safe water to prepare foods and beverages. Water is likely to be safe when it comes from a city water supply or a sanitary well. Your local health officials can tell you how to make a sanitary well.

If you are not sure water is safe, boil it at least 10 minutes in a clean container. Store in a clean covered container.

Use this boiled water for:

- drinking
- preparing dried, condensed or evaporated milk
- making cold beverages
- making ice
- washing fruits and vegetables
- washing dishes.

Foods Eaten Cooked

Cooking food will destroy most harmful bacteria. Most foods should be washed before cooking. Wash them before cutting into small pieces.

Wash meat, fish, and poultry with a clean damp cloth to remove dirt or chipped bones. Do not let them soak in water. They will come out soft and may lose some of their natural juices.

Green leafy vegetables may need to be washed several times to remove dirt, insects, and worms. Lift leafy vegetables from the water. The dirt and sand settles to the bottom of the container.

Foods Eaten Raw

All fresh fruits and vegetables that are to be eaten raw should be washed thoroughly in safe water.

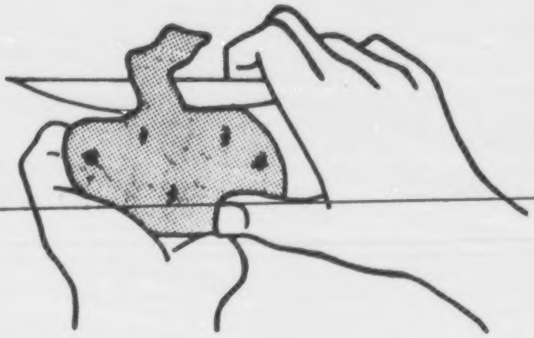
Washing fruits and vegetables helps remove any sand, dirt, or pesticides that might be on them.

If there is mold, bruised or spoiled spots, or insect damage, cut away these spots before eating the food.

Foods Grown in Night Soil

Some foods such as fruits and vegetables may come in contact with human excreta or night soil. These foods need special care.

Untreated night soil may carry disease germs. There is no known way to treat night soil at home so that it is safe. Never use it to fertilize your garden.



Protect yourself and your family from germs in human waste:

If there is a danger any night soil has gotten into your garden, cook your vegetables. Do not eat them raw.

Any fruit that falls on ground that has been fertilized with night soil should be cooked, particularly if it cannot be peeled.

Sometimes water from irrigation ditches contains night soil. This water is not safe. If you have to use this water for watering your garden and fruit trees, cook vegetables and fruits to make them safe.

Foods Sprayed with Pesticides

In many countries, gardens and fruit trees are sprayed with pesticides to get rid of insects. Washing fruits and vegetables will help remove these sprays.

Ask your health department sanitarian or other health officials to tell you how to get rid of these sprays on food.

Leftover Foods

All leftover foods should be stored in a clean covered container.

If the food has been cooked, cool it quickly. Place the container in cold water. Do not cover tightly until it is cool. Put a clean cloth over the container until the food is cooled.

After food is cooled, cover the container tightly. Place the container in a cool place. If possible, store it in an iceless or mechanical refrigerator or a cave.

Foods made with milk, eggs, meat, fish, or poultry spoil rapidly. In hot climates without refrigeration, never save them for another meal.

All cooked leftover foods should be reheated to make them safe to eat. Heat well for 15 minutes.

USE SAFE MILK

Milk is one of our best foods. Fresh milk can have harmful bacteria in it. To make fresh milk safe, bring it to a boil.

Milk that you buy from a modern dairy usually will be safe. If it is not you can make it safe at home.

Make milk safe by boiling soon after milking if possible.

How to Make Milk Safe at Home

1. Be sure all your utensils are clean. Wash utensils and containers first in cold water to remove any milk or fat, then wash them in hot soapy water. Rinse with water that has been boiled for 10 minutes. Be sure to wash the cloth strainer.
2. Pour milk through the strainer into the container for heating. It is best not to heat more than 2 quarts at a time.
3. Place the container over the fire and bring the milk to a boil. Stir with a ladle or a wooden spoon.
4. As soon as the milk boils, remove the container from the fire.
5. Place the container in a basin of cold water. Change the water often to cool the milk quickly.

Boy in Pakistan is boiling milk to make it safe.

6. Put the cooled milk into clean bottles or pottery jars that have been washed in safe water, and cover.

7. Keep milk in a cool place. Iceless or mechanical refrigerators or caves are ideal places for storing milk.

How to Use Dried Milk

Fluid milk is prepared by mixing one part of dried milk with four equal parts of safe water.

Sprinkle dry milk on top of safe, lukewarm water. Mix well. Mix a fresh supply of milk for each meal.

BEST COPY AVAILABLE

Meats

Fresh meat should smell fresh and look fresh. It should not have a dark brown or greenish color. All meat should be free from mold, fly eggs, and maggots and be protected from flies and dirt.

Fish

To select fresh fish, look for these signs:

eyes - bright, clean and bulging
gills - reddish pink, free from slime
scales - tight to the skin, bright and shiny
flesh - firm and elastic
odor - fresh smelling

Dried fish should be free from unpleasant odor, mold, fly eggs, and maggots. All fish should be protected from flies and dirt.

Poultry

When selecting live poultry, choose one that looks healthy. The comb should be bright in color. The feet should be smooth, not scaly.

When buying dressed poultry, the skin should be free of blemishes, bruises and breaks.

Poultry should be free from maggots and protected from flies and dirt.

BEST COPY AVAILABLE

Keep Meat, Fish and Poultry Covered

These foods should be kept covered--

- in the market
- on the way to your home
- in your home.

They should be wrapped loosely to allow air to circulate. Flies and other insects like to feed on these foods.

In the market, cheese cloth or other loosely woven cloth could be used. In some countries, food is protected from flies by screened containers.

On the way from the market to your home, these foods should be wrapped. If the seller does not wrap them, take wrappings with you. You may use paper, large clean leaves or clean cloths.

At home, keep foods covered. If they are wrapped with paper, leaves or a clean cloth, loosen the wrapping. Air needs to circulate around these foods. Store in a cool place until used.

Food sold in the market is protected by a screen.--Ghana.

Homemakers choose fresh vegetables in a market in Egypt.

Cereals and Breads

Select cereals free from weevils, dirt, and stones. When you pick the grain up in your hand, it should feel heavy. If it feels light, insects may have eaten some of the grain. Insects eat the best part of grains.

Bread should be free from mold.

Keep bread covered at the market, on the way home, and in your home. Covering bread helps to avoid dirt, flies, and other insects.

Fresh Fruits and Vegetables

When selecting fresh fruits and vegetables, avoid wilted, shriveled or decayed ones.

Green leafy vegetables should have a fresh and attractive color, no yellow streaks or spots, or damage by insects or worms.

Milk and Cheese

Fresh milk should be free of insects and dirt. It should have a fresh, not a sour smell. Be sure it is in a clean covered container. Sour milk is sold in many markets.

Dry milk that has a strong flavor and is lumpy may be old or may have been stored in a damp place. Look for insect and rodent damage.

Some kinds of cheese are made with a mold in them. This type of cheese is safe. Mold that forms on the outside of cheese is not safe to eat.

Do not buy cheese that has been damaged by insects or rodents.

STORE FOOD IN A CLEAN PLACE

Whether you buy food or grow it, you must have a place to store it properly until you are ready to use it. Good storage saves time, money, and food. Select suitable containers and plan to keep foods cool, dry and free from dirt, insects, and rodents.

Dry foods such as grains, salt and sugar may be stored in pottery or glass jars, tin cans or bottles. These containers with tight covers may be kept on open shelves in a cupboard.

Perishable foods like--

- fresh meat, fish and poultry
- some fresh fruits and vegetables
- milk, butter, margarine, cream and leftovers

should be kept in a cool place.

When possible, store these foods in covered containers in an iceless or mechanical refrigerator, food safe, cave, or window box.

In cool climates, some fruits and vegetables may be stored from 4 to 6 weeks in cellars or in outdoor pits dug in the ground.

Remember--

- keep foods cool
- keep foods covered.

Food that is not carefully stored attracts insects and rodents. They may carry disease germs.

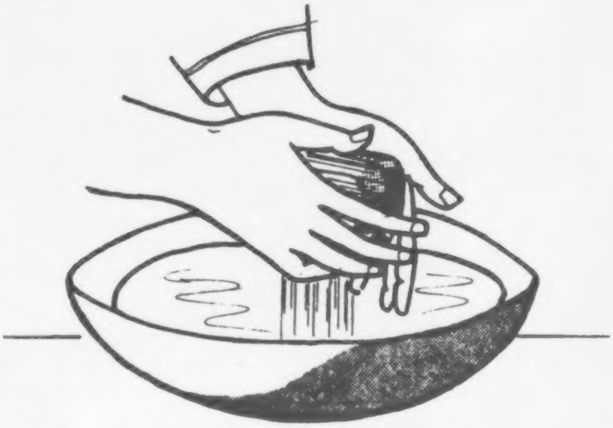
To control these pests you should--

- keep your home and surroundings clean
- keep all food in covered containers
- keep garbage in a covered container
- feed garbage to animals or burn or bury it
- burn or bury trash
- use a sanitary latrine
- ask government officials about the use of pesticides.

You may need to use pesticides to get rid of household pests. Ask your sanitarian of the health department or other officials to help you. They can tell you how to control them.

Keep poisons for killing insects and rodents away from children, food, dishes, and cooking utensils. Mark containers which hold poisons clearly, and store in a safe place. Poisons can make you and your family sick.

KEEP YOURSELF CLEAN



Develop good personal habits. Wash your hair every 10 days or 2 weeks. Do not let hair fall into food--wear a scarf, net or cap. Never comb or fix your hair where food is being prepared.

Wear clean clothing. Wash your clothing often. Use clean aprons to protect your dress. Change clothing when it becomes dirty.

Don't cough, sneeze, or spit near food or dishes. You could spread disease germs.

Never lick your fingers or thumbs. Wash your hands.

Don't scratch your head or touch your face when preparing food.

When tasting foods for flavor, use a separate fork or spoon.

Remember, harmful germs are all about you. They are on your body, hair, face, and clothes. If you do not keep clean and healthy, you can spread germs.

Several ways you can spread disease germs when preparing and serving food are by having:

- infected sores on your hands
- unwashed hands
- a contagious disease.

Scratches and Cuts

The sore on your hand may have disease germs. Those germs can get into the food you are preparing.

Later you eat this food. In awhile you may get a stomach ache. The germs traveled from your hand to your food and then to your stomach. If your family eats the same food, they will be sick too.

If you have a cut or scratch, wash it with soap and water, cover with a clean cloth.

Keep sores covered so that flies and dirt cannot get on them.

If possible, you should see a doctor if you have sores or ulcers.

Wash Your Hands Often

Disease germs of amoebic dysentery, food poisoning and typhoid fever can be spread by unwashed hands. Get into the habit of washing your hands often with soap and clean safe water.

Wash your hands before you:

- handle food, dishes or other eating utensils
- set the table
- eat
- feed the children.

Wash hands after you:

- go to the latrine
- use a handkerchief
- handle animals
- clean animal pens
- work in gardens
- cough or sneeze
- wipe your eyes, even when you use a cloth
- handle a baby or sick person.

Keep your fingernails cut short. Dirt and disease germs gather under long nails.

Care of a Person with a Contagious Disease

Such diseases as diptheria and scarlet fever are contagious. This means they can be spread from one person to another.

See a doctor if possible.

A person with a contagious disease should not prepare food. Have some other member of the family do it.

KEEP EQUIPMENT AND DISHES CLEAN

Equipment and dishes used for preparing and serving meals must be:

- kept clean
- stored in a clean, safe place.

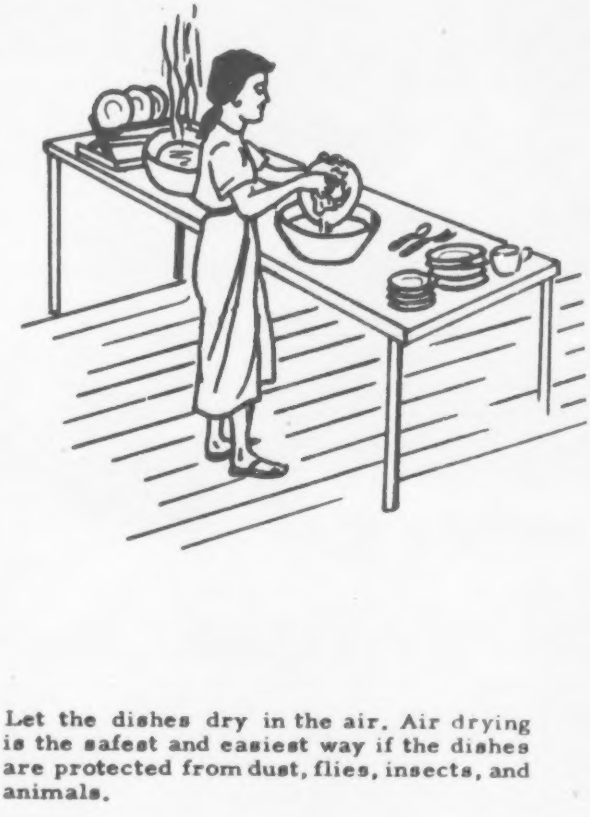
Remember, if equipment and dishes are cleaned immediately after they are used, it will take less time and the job will be easier for you.

Care of Dishes, Pots and Pans

Dishes, glasses, silverware, pots, pans and other cooking utensils used for preparing food should be washed after each use.

Washing and rinsing dishes carefully helps to prevent the spread of disease germs to you and your family.

To wash dishes, use water as hot as your hands can stand. Use soap in the wash water. Pour hot water that has been boiled for 10 minutes over the dishes to rinse them. This rinse water should not contain soap and should be clear and clean.



Let the dishes dry in the air. Air drying is the safest and easiest way if the dishes are protected from dust, flies, insects, and animals.

If you use towels to dry dishes, be sure the towels are clean.

Burned-on food, smoke, rust and other stains need special cleaning with a scouring material. Wood ashes, sand and pebbles, salt, and other local materials can be used. Commercial scouring powders are good, if available.

Store clean dishes in a clean, ventilated place, free from insects and rodents.

Care of Babies' and Sick Person's Dishes

Babies' dishes and dishes for the sick need special care. Wash these dishes separately with hot soapy water and rinse with clear water.

Then place each person's dishes in a separate container. Cover the dishes with clean water. Boil for 10 minutes. Drain. Air dry. Store separately from the dishes the rest of the family uses.

Care of Large Equipment

The stove and oven should be thoroughly cleaned at least once a week. Food that has spilled should be wiped off after each meal.

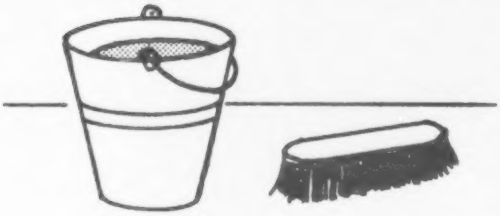
Other equipment, such as the iceless or mechanical refrigerator, stools, chairs, and cupboards, need to be cleaned often to keep them clean and safe. Scrub with soapy water and rinse with clear water. If you have a sink, it should be cleaned thoroughly at least once a day.

Store Dishes, Pots and Pans in a Clean Place

All eating and cooking utensils should be stored in a clean, dry place. Dishes and glasses should be stored in an enclosed cupboard, if possible. Store eating utensils in a drawer, if possible.

Large pieces of cooking equipment, such as pots and pans, can be turned upside down on open shelves, a table or counter to help keep out dirt, insects and rodents.

KEEP THE COOKING AND EATING AREA CLEAN



Take pride in keeping the place where you cook and eat clean and orderly. Keeping these areas clean will help to keep away household pests and avoid sickness. Keep all animals, dogs, cats, pigs, and chickens out of this area. They can spread disease germs.

Painting or whitewashing the walls helps keep the place clean. It will be a more attractive and pleasant place to work.

Have good air circulation to remove odors, grease and smoke. A stove with a chimney will help to keep out smoke.

Some people screen windows to keep out mosquitoes and other insects. They use metal screening, mosquito netting, or other available material.

Scrub the table and chairs often.

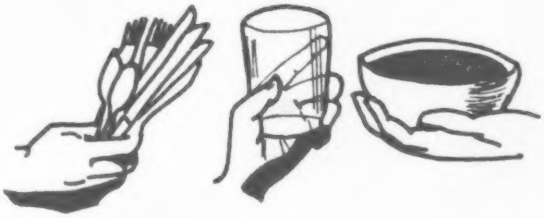
A clean kitchen is a more pleasant place to work. When your kitchen is clean, you will be proud of it and the food you prepare in it.

Sometimes there are not enough dishes and utensils so all members of a family can eat at one time. No one should eat out of the same container or use utensils that another person has used until they have been washed. Washing helps to destroy disease germs.

If cloth or paper napkins are used, each person should have his own. Paper napkins should be burned after use. Cloth napkins should be washed in very hot soapy water. Rinse in clean water and, when possible, hang in the sun to dry.

When setting the table--

- keep your hands off the tines of forks, the blades of knives, the bowls of spoons
- do not touch the rims of glassware or cups
- keep fingers off the inside of bowls and plates.



EQUIPMENT IS IMPORTANT

Good equipment helps you to:

- prepare and serve safe meals
- keep your home clean.

A piece of equipment needed in one country may not be practical in another. The kind and amount of equipment needed will depend on the jobs you do in your own kitchen.

When you have good equipment to store, prepare and serve food, you are helping to avoid the spread of harmful bacteria.

Storing foods in covered containers off the floor or ground helps to protect them from dirt, insects and rodents.

An iceless or mechanical refrigerator helps to keep perishable foods such as meat, fish, poultry, milk and eggs for a longer time.

Containers for garbage and trash help to keep your home clean.

Find out what equipment is available in the markets. Buying commercial equipment may cost less than making it.

If you do plan to make equipment, you should find out if the materials you need are available. You should figure the costs to make the equipment before you start the project. Your husband can help you make the heavy pieces of equipment.

Do not have more equipment than you can use.

Keep the Working Surface Clean

After each meal is served, clean the work surface or table with soap and water. If water is scarce or expensive, cover the work surface with clean paper or large clean leaves.

Be sure the leaves have not been sprayed with insecticide. After you are through preparing the meal, burn the paper or leaves. Then the work surface will not need to be cleaned each time.

Keep the Floor Clean

Sweep the floor after meals to pick up food scraps that have fallen to the floor.

Sweep after food is prepared and served, not while food is being prepared or served. Dust rises in the air and will fall on the food and on work tables. Dampen the broom when sweeping to avoid scattering dust.

If the floor is made of washable material such as wood or cement, or is covered with linoleum, wash it with soap and water to keep it clean.

Dispose of Garbage and Waste Water

Put all good scraps in a covered garbage container. Do not let them fall on the floor. They attract household pests and pets.

Waste foods can be fed to animals, used for fertilizer, burned or buried. When garbage is used to feed pigs, boil it for 30 minutes. This keeps pigs healthy and prevents spread of trichinosis from food scraps. Be careful that there are no bones, glass, or metal in garbage fed to pigs.

Wash the garbage container with soap and water each time it is emptied.

Don't throw garbage in the yard. It attracts insects and animals.

You can use waste water on your garden. Some homes have a sink with septic tank and a cess pool for disposing of waste water.

If you do not have a sink, dig a hole in the yard and fill it with rocks. Empty the waste water into this hole. The water will seep through the rocks into the earth.

Use a separate container for trash. When the container is full, burn or bury the trash.

MAKE EATING A PLEASANT TIME

Almost everyone enjoys eating. To help make eating time pleasant, serve food in clean containers, in a clean, cheerful place.

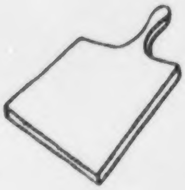
In many countries, all members of a family sit down together to eat. Each person should have his own dishes and utensils to eat with at a table.

If flies or other insects are a problem, the serving dishes should be kept covered. Remove the cover just long enough to serve each member of the family.

Use serving forks, spoons, spatulas or ladles to serve food to each member of the family. Do not touch the prepared food with your hands.

EQUIPMENT FOR PREPARING FOOD

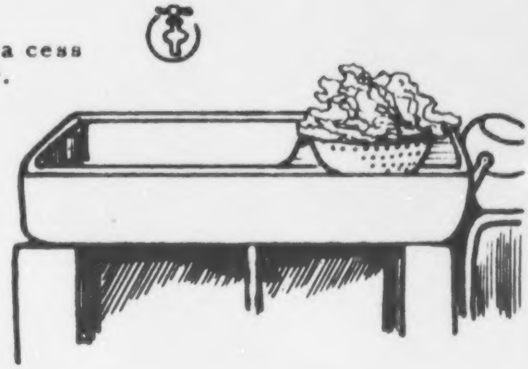
Your work area can be a table or a counter over a cupboard. Although food is sometimes prepared on a board on the floor or ground, a table or a counter is better because dirt and dust cannot get into the food so easily.



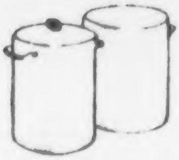
Use a hardwood board to cut or chop foods on. Cover with a clean cloth to use for rolling out pastry.

A paddle, a long, flat board 4 or 5 inches wide and tapered at one end, can be used for stirring large containers of food and for removing foods from the oven.

A sink with a drain connected to a septic tank or a cess pool is a sanitary way to get rid of waste water.



Vegetable brushes can be made of coconut shells and other local materials.

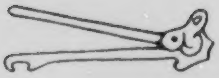


You will need several containers of wood, pottery, metal, or enamel to prepare and mix foods, and several to wash and peel fruits and vegetables into. Gourds or calabashes may be used.

A rotary beater or wire whip is used to beat eggs and mix powdered milk with water. A wire whip can be made at home.

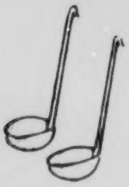
Funnels made of metal, wood, or plastic are used to pour liquids into containers with small openings.

A sieve can be made by punching holes in a large tin can. It can be made of metal or screening.



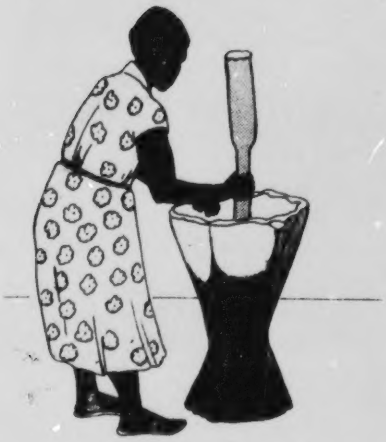
A bottle opener is a hook used to remove caps from bottles. A can opener is made of metal with a sharp cutting edge. There are many different types.

You may need several types and sizes of knives. Keep the blades sharp. Store out of the reach of children.



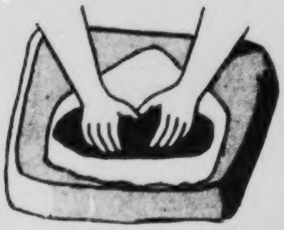
Ladles made of metal, wood, or gourds are used to take foods such as rice, flour, sugar and beans out of cans and to serve juicy foods.

Measuring cups made of aluminum, tin, glass or gourds can be used to measure ingredients for cooking. Measuring spoons, usually made of metal, wood, or plastic, are to measure salt, pepper, spices, sugar and flavoring.



A mortar is a heavy vessel to put grain in. A pestle is used to crush grain in the vessel. It is important to keep them clean. Wash them after each use and set in the sun to dry.

A grater can be made from one long side of a can by punching holes of different sizes on the can. Bind the edges with small strips of wood. Use it to grate cheese, vegetables and spices. It may also be used to grate soap for dish washing or laundry. Keep it clean. Store it where children cannot reach it.

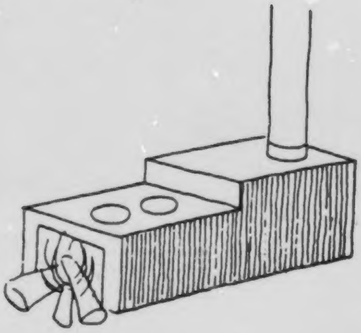


A hand-operated grinder can be used to grind foods at home. They are available in many countries.

Grinding stone. Used in many countries for grinding grains, peppers and other spices.

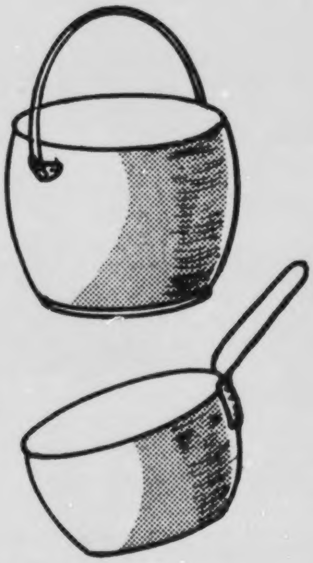
EQUIPMENT FOR COOKING

Many different types of stoves are made in countries around the world. When the stove is inside your house, try to have one with a chimney. This will keep the smoke out and help to keep your home clean.



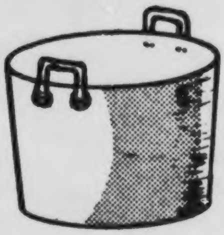
An oven can be made of oil drums, kerosene cans, mud, clay or bricks. Many times the oven is separate from the stove. If the oven is placed inside your house, be sure it has a chimney.

A double boiler may be made from two cans, one smaller than the other. It should have a cover. The bottom can is filled with water and the smaller can containing food is placed inside the can with water. Cook sauces or other foods which need to be cooked very slowly in a double boiler.



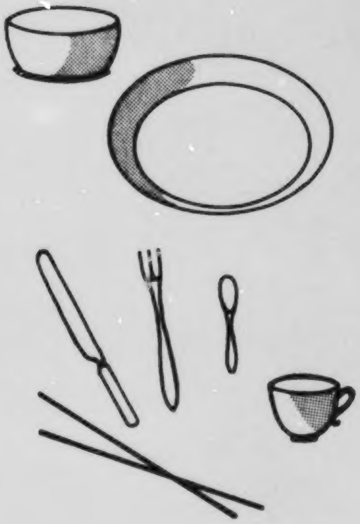
Pots for cooking can be made of aluminum, cast iron or clay. The number and size you need depends on the amount and kinds of food you prepare. They should have lids and handles. A lip makes pouring easier. They should not be too heavy to lift when full.

Pans for baking may be made of tin, aluminum or stainless steel. They are used for baking breads, casseroles, meats, cakes, pies, and cookies.



Pot holders are used to handle hot pots, pans, spoons and other hot utensils. You can make them by sewing several thicknesses of cloth and binding the edges. They should be about 6 inches square.

EQUIPMENT FOR SERVING



Food is placed on the table in large serving dishes. From these, the food is taken to put on each person's own dish.

Cups or glasses are used to drink from. Each person should have his own.

Knives, forks, spoons or chopsticks made of stainless steel, aluminum, tin, silver or wood are used to eat with. Each person served should have his own.

Tablecloths or place mats are made of closely woven washable material. You can make them at home. They are placed between the dishes and table to keep the table clean.

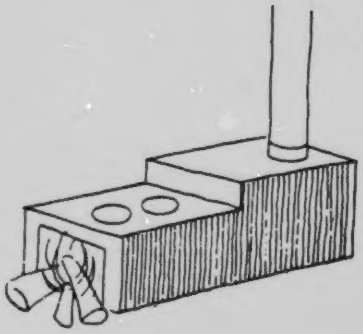
Napkins may be made of cloth or paper. They are placed on your lap to protect your clothing while you are eating, you can also wipe your hands or face on them.

A table can be made at home. It should be made of material that is easy to clean.

Stools or chairs can be made at home. Place them around the table to sit on when eating.

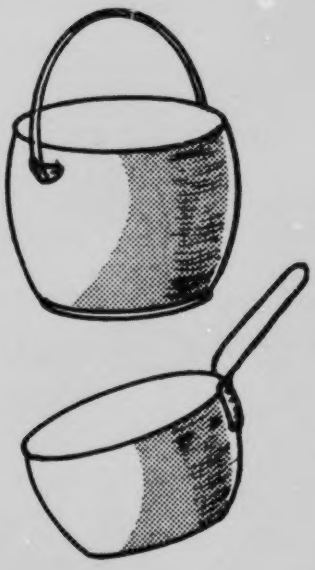
EQUIPMENT FOR COOKING

Many different types of stoves are made in countries around the world. When the stove is inside your house, try to have one with a chimney. This will keep the smoke out and help to keep your home clean.



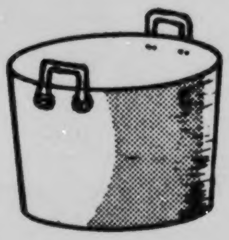
An oven can be made of oil drums, kerosene cans, mud, clay or bricks. Many times the oven is separate from the stove. If the oven is placed inside your house, be sure it has a chimney.

A double boiler may be made from two cans, one smaller than the other. It should have a cover. The bottom can is filled with water and the smaller can containing food is placed inside the can with water. Cook sauces or other foods which need to be cooked very slowly in a double boiler.



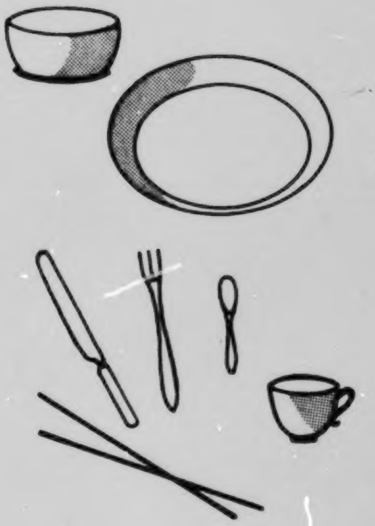
Pots for cooking can be made of aluminum, cast iron or clay. The number and size you need depends on the amount and kinds of food you prepare. They should have lids and handles. A lip makes pouring easier. They should not be too heavy to lift when full.

Pans for baking may be made of tin, aluminum or stainless steel. They are used for baking breads, casseroles, meats, cakes, pies, and cookies.



Pot holders are used to handle hot pots, pans, spoons and other hot utensils. You can make them by sewing several thicknesses of cloth and binding the edges. They should be about 6 inches square.

EQUIPMENT FOR SERVING



Food is placed on the table in large serving dishes. From these, the food is taken to put on each person's own dish.

Cups or glasses are used to drink from. Each person should have his own.

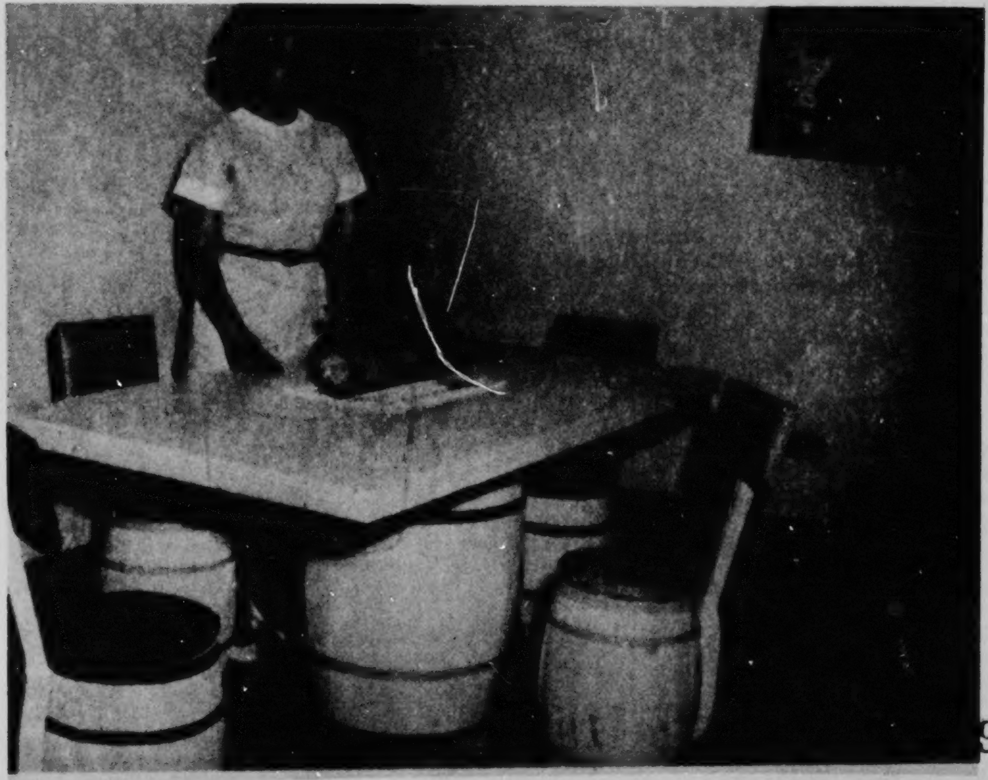
Knives, forks, spoons or chopsticks made of stainless steel, aluminum, tin, silver or wood are used to eat with. Each person served should have his own.

Tablecloths or place mats are made of closely woven washable material. You can make them at home. They are placed between the dishes and table to keep the table clean.

Napkins may be made of cloth or paper. They are placed on your lap to protect your clothing while you are eating, you can also wipe your hands or face on them.

A table can be made at home. It should be made of material that is easy to clean.

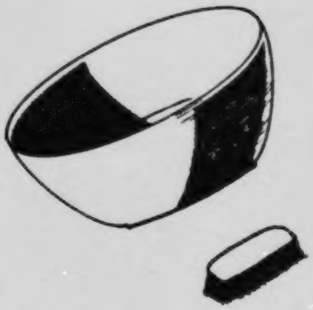
Stools or chairs can be made at home. Place them around the table to sit on when eating.



EQUIPMENT AND SUPPLIES FOR CLEANING UP

Dish pans are used for washing and rinsing dishes, glassware, silverware, and cooking utensils.

A brush, dishmop, or cloth is used for washing dishes, pots and pans, etc. They may be made of local materials.

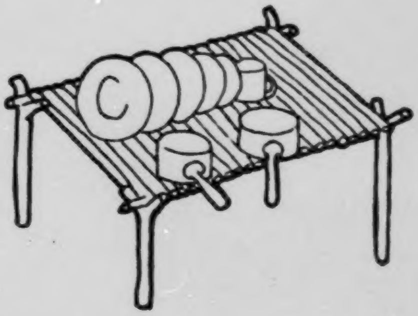


Tongs made of metal or wood can also be used to lift dishes out of hot rinse water.

Dish baskets made of wire mesh or woven fibers are used to dip dishes into boiling hot rinse water.

Put dishes on a shallow drain pan made of metal or plastic when they are lifted from boiling hot rinse water.

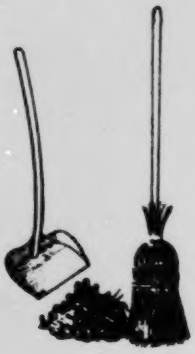
Dish towels can be used to dry dishes, pots and pans. They can be made at home. But it is more sanitary to air dry dishes.



A dish drying rack can be made of wood, bamboo, metal or plastic.

Wash pans are used to wash hands often when preparing foods. Towels for drying hands are made of closely woven cloth or paper.

Use a towel drying rack or line to air towels well and raise them from the ground. This keeps them out of the reach of children.



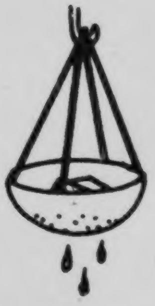
A broom may be bought or made of tough grass or palm leaves tied firmly to a wooden or bamboo pole.

A dust pan may be made of an oblong tin can and a long stick. Use it to collect dust and any waste food or trash that has fallen on the floor.

You need cleaning cloths for washing work areas. Keep a separate one to clean the stove.

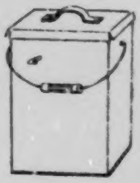
A scrub pail can be used to hold water and soap for washing the floor or large equipment. An oil can with the top cut off may be used.

A soap dish is used to save bar soap. It needs to be dried from time to time.

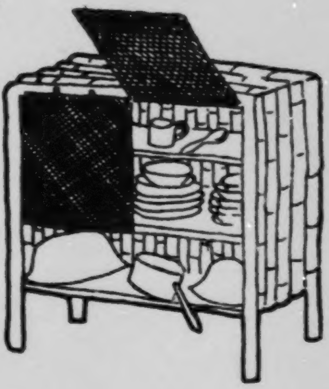


Trash can. May be made of metal, wood, or cardboard. It needs a tight fitting cover. Used to collect paper, tin cans, and other trash.

A garbage can may be made from a large tin can, such as a kerosene can. It should have a tight fitting cover and be waterproof. Handles on each side and the cover make it easier to use. It is used to collect food wastes such as peelings, scraps, and bones.

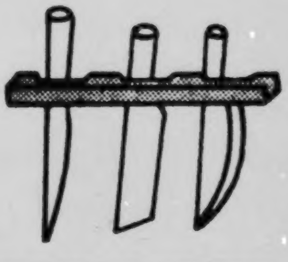


STORAGE EQUIPMENT



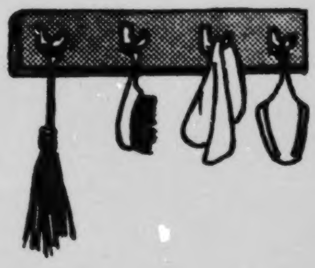
Cupboards can be hung on the wall or stood on the floor. They are made of wood, packing cases, bamboo, or other local materials. Storing food, dishes and eating utensils in a cupboard saves space. It also protects them from dust and animals. A cupboard placed above the washing up area will save time and effort in carrying clean utensils.

Containers of metal, pottery, glass, or coconut shells are used to store dry foods such as sugar, salt, flour, or spices. They should have tight fitting covers to keep out insects, rodents and dirt. Containers for storing safe water may be made of pottery, metal or wood.



Knife holder will store knives safely out of reach of children. A drawer is better because it keeps knives clean as well as safe.

Storage shelves are used to store small covered containers holding food. Shelves should be attached to a strong wall.



Hooks made of bamboo, wood pegs, a nail or wire are used to hang equipment on. They are useful in a small space because they keep the kitchen tidy.

Suggestions to Help You Give a Good Demonstration

Select a topic within your program which the women have helped plan.

Prepare yourself carefully. Know more about the subject than you plan to teach.

Outline your demonstration step by step and write down exactly what you will say at each step.

Practice your demonstration until you can do every step without hesitation.

Use only equipment and materials available to the families concerned.

Arrive at your meeting place ahead of the audience and arrange all materials for your demonstration neatly and in the order you will use them.

Plan for your audience to be seated so that everyone can see and hear easily.

Use visual aids in your demonstration if they will help to make your presentation clearer.

Ask one of the women to assist you. This helps to develop leadership.

Evaluate your own demonstration

(1) Did the women learn how to do what you demonstrated?

(2) What evidence was given that the women plan to carry out this practice in their homes?

(3) How could this demonstration be improved?

DEMONSTRATIONS

Show how to:

Wash fruits and root vegetables.

Store fresh foods at home.

Make milk safe by boiling.

Prepare dried milk with safe water.

Use different methods of cooling.

Set a table.

Clean large equipment such as a stove.

Store dishes, pots, pans and utensils.

Make various pieces of equipment.

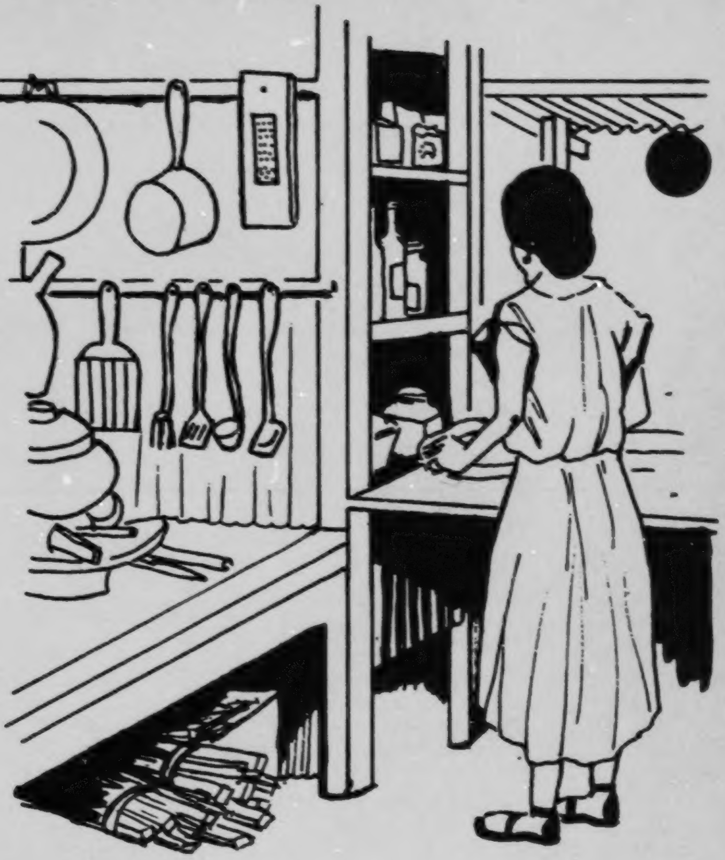
Take the women on tours to see-

- food markets
- equipment markets
- a well arranged kitchen

REMEMBER ...

To prepare and serve safe meals:

- Select good quality food.
- Store food in a clean place.
- Keep containers and surroundings clean.
- Keep yourself clean and healthy.



BOOKS TO HELP YOU

[redacted]

CARE FOR YOUR BABY

AN AID TO EXTENSION AND VILLAGE WORKERS IN MANY COUNTRIES

FES
AID

SANITATION SERIES
NUMBER 9

Federal Extension Service, United States Department of Agriculture, in cooperation with Agency for International Development, U.S. Department of State

This is for
YOU
The Home Economics Extension Worker or Village Worker

The information in this booklet is based on experiences of extension workers like yourself and health workers in many countries. You'll find ideas to help you teach mothers how to care for their babies.

Use this material in any way best suited to your needs.

BY KATHRYNE SHEEHAN HUGHES

Appreciation is expressed for assistance from: health, sanitation, home economics and information personnel of the Agency for International Development; specialists in the Federal Extension Service; and staff members of other agencies.

Issued September 1964

Cover—The nurse is telling a Korean mother how to bathe her baby.

CONTENTS

Page
Getting Ready for Your Baby 3
  Make Plans 4
  Delivery 4
  Clothing for the Baby 5
  A Bed for Your Baby 6
  Bedding 7
After Your Baby Arrives 8
  Bathing the Baby 8
  Feeding Your Baby 10
  Baby Health 12
  Care for Your Baby's Clothing and Bedding 13
  Play Equipment 14
Demonstrations 15
Books to Help You 16

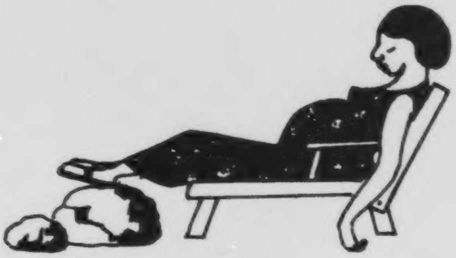
BEST COPY AVAILABLE

GETTING READY FOR YOUR BABY

As soon as you know you are going to have a baby, go to a doctor, nurse, midwife, health worker, health center, clinic, or hospital if you possibly can.

They can tell you how to:

- take care of yourself
- plan for your baby's arrival
- take care of your baby



YOU . . .

. . . should take good care of yourself while you are pregnant.

Eat the Right Foods

They will help you have a strong baby. Your doctor, nurse, or extension worker can tell you which foods are best.

Rest and Sleep

While you are expecting your baby, try to get plenty of sleep and rest.

Lying down for a while each day helps keep you from getting too tired. If you cannot lie down, try to rest with your feet up for a few minutes at least once a day.

Your doctor, nurse or health worker will probably tell you to keep on with most of the things you have been doing. But they probably will also tell you to avoid lifting heavy weights and pushing and pulling heavy things.

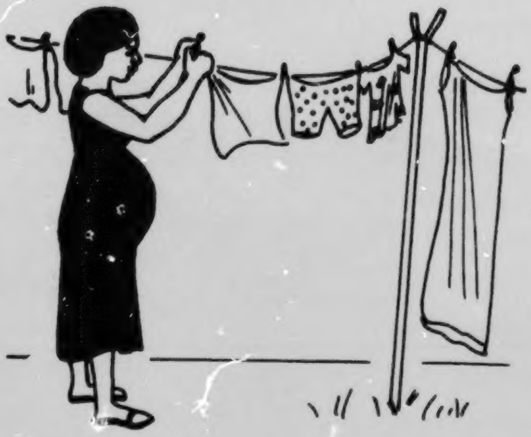
Bathe Every Day

If you bathe your body every day you will feel better. A clean skin is important to good health.

Avoid Disease

Take every precaution to keep well. If you become ill or feel something is wrong, try to see a health worker.

MAKE PLANS



You need to plan for:

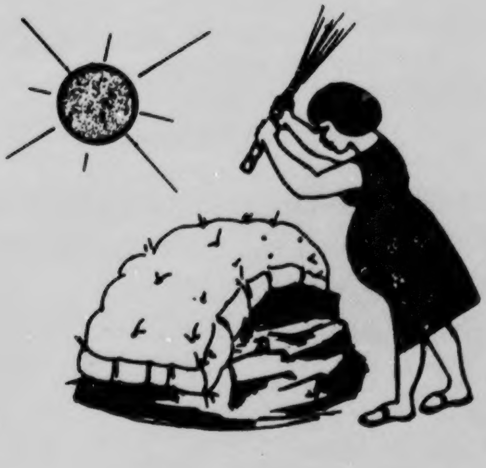
- delivery
- clothing the baby
- a bed for the baby
- bathing the baby
- feeding the baby

DELIVERY

You should plan ahead of time where your baby will be delivered.

If your baby will be delivered at home:

- Have the house clean.
- Brush the mattress or pad of your bed—air it in the sun.



- Wash or brush the blankets—put them in the sun.
- Prepare clean sheets. Wash them with soap and water and dry in the sun. Store them in a clean place until time of delivery.
- Prepare 12 rags about 45 centimeters or 18 inches square. Wash them in soap and water—hang in the sun to dry. Fold them and store in a clean place.
- Have clean clothes ready for yourself and the new baby.

If your baby will be delivered in a maternity center:

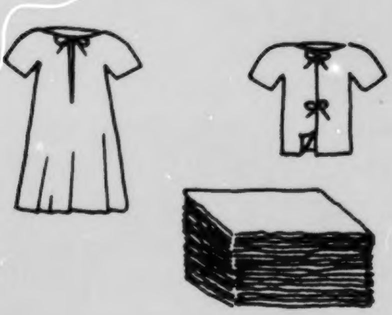
- Take clean clothes for yourself and the baby.
- Prepare them ahead of time by washing them with soap and clean water and drying them in the sun. Keep them in a clean place.

CLOTHING FOR THE BABY

You should have enough baby garments to change from wet to dry whenever needed.

Baby clothes should:

- be loose and full
- be made of soft, lightweight material
- be cool or warm as needed for the season
- be easy to wash
- have convenient openings



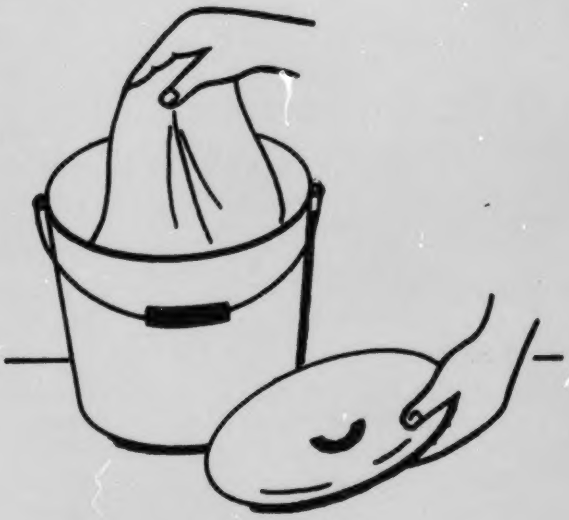
Shirts and gowns with back openings are easiest to put on small babies. Garments that tie rather than button are easier to handle. Clothing with a drawstring around the neck is dangerous.

Diapers

In some countries babies wear diapers. A diaper is a clean cloth fitted around the baby's body to catch excreta.

Change the baby's diaper as soon as it is wet or soiled.

Diapers need special care. Soak wet or soiled diapers in a pail of cold water. Cover the pail to keep out flies. You can use leaves, cloth, cardboard, or any other available material.



Scrape the bowel movement off the diaper before soaking it. Wash the diaper in hot water with a mild soap. Do not use lye or strong soap.

Rinse two or more times. Soap left in diapers may cause your baby's skin to chafe.

If your baby has loose bowel movements, it is safer to boil diapers.

Hang diapers to dry in the sun if possible. Sun helps destroy some germs.

In some countries when babies start walking mothers leave off diapers.

A BED FOR YOUR BABY

Babies should have their own place to sleep. They should not sleep with anyone because they may smother.

A baby needs a firm flat surface to sleep on. He should sleep in a quiet safe place protected from insects and animals. A basket, crib, hammock, or clothlined box may be used.

If you use a basket or box, keep it off the floor or ground. If you use a crib, be sure the bars are close together. This will keep your baby from getting his head caught.

If you paint the crib or box, use paint that is harmless to babies.

How to Make a Baby's Hanging Bed

You Will Need

- 2 lengths of board 1 in. x 1 in. x 36 in.
- 2 lengths of board 1 in. x 1 in. x 15 in.
- strong thread
- 2 round wooden rods 17 in. long
- 2 yards strong cord
- 4 pieces of strong cloth, such as canvas or denim, 36 in. x 15 in.
- 2 pieces of strong cloth 6 in. x 15 in.
- nails 3/4 and 1/2 in. long
- glue

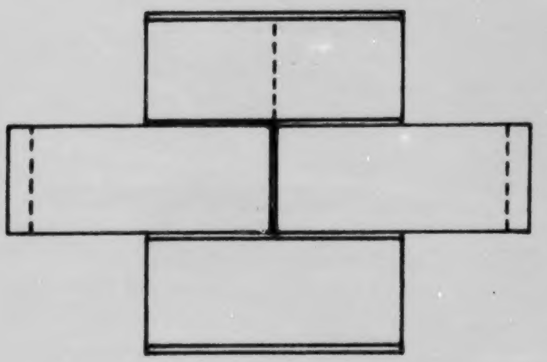
Tools You Need

- Ruler
- Pencil
- Saw
- Hammer
- Sandpaper
- Scissors
- Needle

Instructions for making the bed are adapted from *House and Home Improvement in the Caribbean* by Elsa Haglund, FAO Home Economist.

Sew 2 of the 36 in. x 15 in. pieces together using a flat fell seam to make a piece 72 in. long.

Find the centers of this long piece and the other two 36″ x 15″ pieces by folding them in half. Match the centers; pin the pieces together. Sew twice to make strong flat fell seams. Work away from the center so the material will stay even.



Sew a small hem on the long outside edges of the two shorter pieces.

Sew a 6 in. piece of material across each end of the long piece, and make a 2 in. hem with the double thickness.

Sew the sides together at each corner. This forms the shape of the bed.

Notch the rods slightly about 1 in. from each end. Insert them through the end hems. Tie rope to the rods at the grooves. Hang the bed by these ropes.

A wooden frame in the bottom will give the bed shape and keep it open.

Cut 4 strips of wood to fit the bottom of the bed. Put a little glue on the joints, then nail them together to make a frame.

Use sandpaper to make a smooth, neat finish and cover the frame with a clean piece of old cloth.

Place the frame in the bottom of the bed. Make a mattress to fit the bed. It is now ready for your baby.

A mother in Colombia made this baby's bed.

BEDDING

You will need:

- mattress or pad
- waterproof material to protect the mattress
- sheets
- blanket
- netting to protect your baby from insects

A mattress or pad is put in the bottom of a baby's bed.

You can use local materials, such as grasses or corn husks, to make a mattress. Cut up the filling very fine to make it smooth. If it is rough, it will be uncomfortable for your baby.

Make the cover for the mattress of heavy washable material. Keep it clean and change the filling when it becomes soiled.

A clean adult-size blanket folded to fit snug and flat in the baby's bed makes a good pad. A blanket can be easily washed.

Do not use a pillow for a pad. It is too soft. Your baby's back needs firm support.

Waterproof material helps protect the mattress or pad. Soft, smooth leaves such as banana may be used under the baby's buttocks to protect the mattress.

Sheets for your baby's bed can be made from washable material such as muslin. You should have enough sheets for a change so they can be kept clean.

Blankets are needed to cover the baby. They can be cotton or wool depending on the weather.

Mosquito netting is a must. Insects can carry disease. They will also make your baby very uncomfortable.

[illegible]

BATHING THE BABY

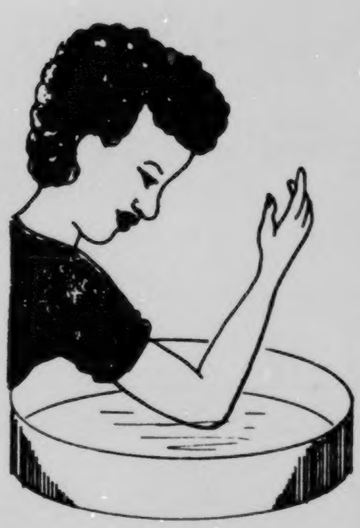
Bathe your baby every [illegible]

Try to bathe [illegible] the same time each day [illegible] just before feeding [illegible]

[illegible]

[illegible]

Prepare for the Bath



First, wash your hands in hot water and soap.

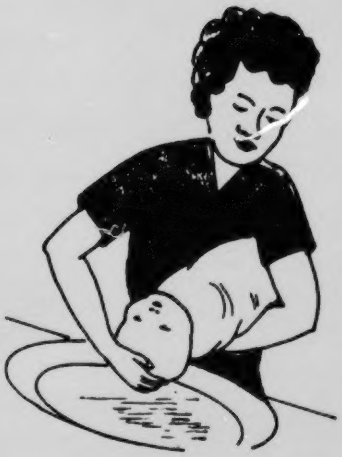
The water for your baby's bath *must be clean.* Boil it at least 10 minutes, then let it cool.

While the water is cooling, gather together things you will need:

- mild soap in a covered dish
- clean, soft cloth for washing the baby
- clean towel
- baby oil—olive, coconut, etc.
- tub, pan or basin
- clean clothes for the baby
- clean pad or apron for your lap

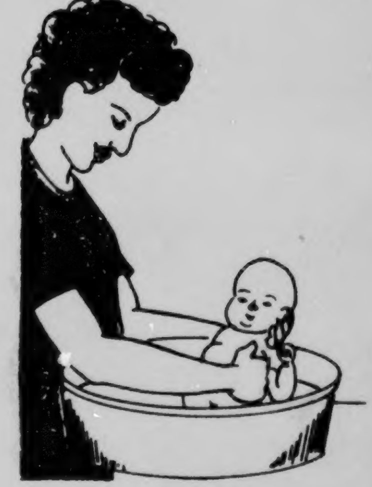
Now test the water with your elbow. It should not be too hot nor too cold. It should be just warm.

How to Bathe Your Baby



Wash the eyes first with a clean piece of cloth wrung from clean water without soap. Wash from the corner near the nose outward. Then wash the ears, nose, and face with clear water without soap.

Soap the baby's head and rinse over the tub or basin. Be careful to keep soap away from the eyes. Dry the hair.



Make a good lather of soap. Rub this over the baby's body. Slowly put him into the tub of warm water, feet first.

In washing the body, be sure to wash the creases of the neck, arms, legs, and groin. Wash hands and feet, cleaning between fingers and toes.

After bathing, pat his body dry with a soft clean cloth.

FEEDING YOUR BABY

The best food for a healthy baby is a healthy mother's milk. But sometimes a mother is not able to breast feed her baby or she may not have enough milk.

When you cannot breast feed your baby, go to your doctor, nurse, or health worker to learn what to feed your baby.

As your baby grows he will need other foods. Your doctor, nurse, or health worker will tell you when to add such foods as fruit juices, cereals, eggs, and other solids to the baby's diet.

His food, water, and eating utensils must be kept clean.

Many stomach upsets are caused by harmful germs in water or food which is not clean. It is not safe for your baby to eat leftover food.

Before you feed your baby, wash your hands with soap. Be sure your clothing is clean. Covering your dress with a clean apron is a good practice.

If possible, wash your breasts and nipples with mild soap and clean water before feeding the baby. Be sure all soap is rinsed off. Wipe off the nipples after each nursing.

When you are feeding your baby in any other way than from the breast, the easy way is with a spoon from a small bowl or cup. They are easier to keep clean than bottles and nipples.

Never touch your baby's food with your hands or mouth.

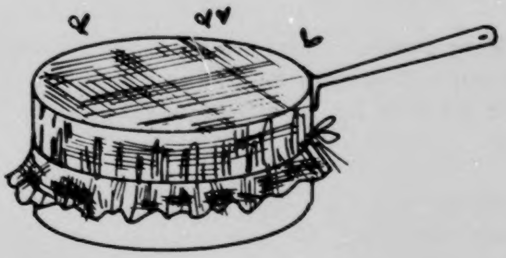
A Jordanian mother feeds her baby orange juice.

Water

In addition to milk, your baby needs water.

Boil water in a clean pot for at least 10 minutes. Then let the water cool before you give it to your baby.

When water is cool, store it in the container you boiled it in or in another clean container. If you pour the water into another container, pour it while it is hot.

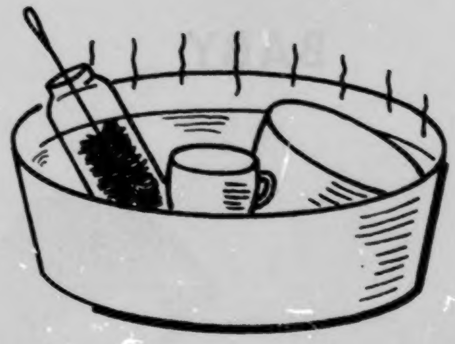


Put a tight-fitting cover over the top of the container so no flies or dirt can get into it. Store the boiled water in a cool place.

Care of Baby Dishes

Any dishes and utensils used in feeding your baby must be washed and boiled.

Rinse soiled dishes and utensils with cold water. Wash with soapy water.



Place the dishes and utensils in a pan. Cover with water. *Boil for 10 minutes.* Boiling will kill germs and make dishes safe for your baby.

Drain the dishes. Let them dry in the air if you can protect them from insects and dirt. Avoid touching the insides or rims of dishes and spoons. Cover well and store in a clean place.

Bottles and nipples need special care. Use a brush to clean the insides of bottles. If you do not have a brush, put a little sand or a few pebbles in the bottle. Then fill the bottle half full of water. Shake it well. Remove the water, pebbles, or sand. Rinse.

Turn rubber nipples inside out and wash. Now the bottles and nipples can be washed and boiled the same as other dishes and utensils for the baby.

This baby is being examined at a clinic.

BABY HEALTH

Make every effort to take your baby to the doctor or clinic for regular examinations.

The doctor or nurse may give injections to protect your baby from disease. Ask them to do this.

Keep everything that touches your baby clean—his clothing, food, dishes, water, and bedding. This will help to keep him healthy and happy.

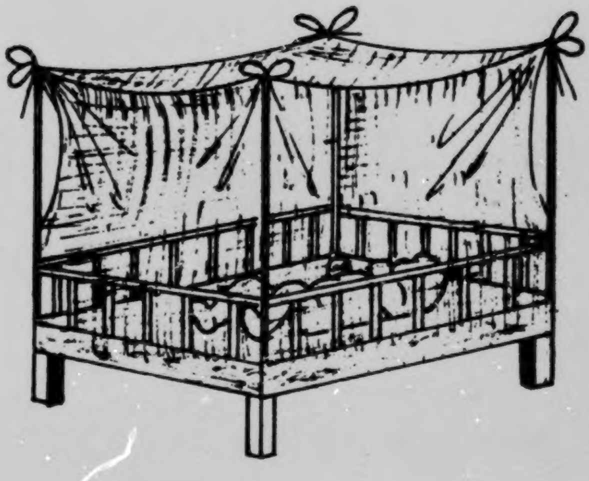
Keep sick people away from your baby. Do not kiss him if you are sick or have a cold.

When you have a cold, you may protect your baby by tying a large handkerchief or clean cloth over your mouth and nose.

Let your baby have plenty of fresh air and sunshine but be careful that he does not get sunburned.

At the beginning, he should not be left in the direct sun for more than a few minutes. Later he can play in the sun for longer periods of time.

Always protect the baby from flies, mosquitoes, and other insects. You may use loosely woven cloth such as mosquito netting



The net should be supported so it does not come down close to the baby and smother him.

Do not keep covers or sheets over the baby's face. Keep bedding dry.

Care for Your Baby's Clothing and Bedding

Keep clothing and bedding clean. Wash them thoroughly in clean water and mild soap. Rinse well. Hang in sunshine to dry.

Do not boil wool things. Boiling causes them to shrink. Use warm water. Dry in a clean shady place.

PLAY EQUIPMENT

A Play Pen

In many countries families build play pens of bamboo or wood for their babies.

When your baby is in a play pen, it is easier to keep him clean and he is safer. Animals such as dogs and chickens cannot get to the baby. The pen can be moved to different parts of the house or yard while you do your work.

How to Make a Play Pen

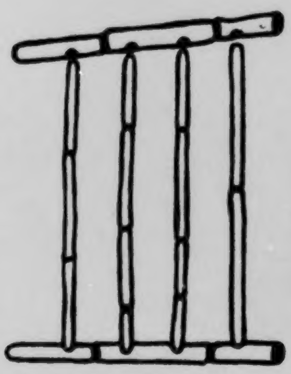
You Will Need:

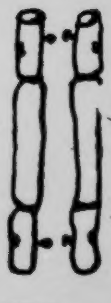
- 36 pieces of bamboo or wood for upright posts on the sides of the pen, 20 in. long x ½ in. in diameter.
- 8 pieces of bamboo or wood for corner posts, 26 in. long x 2 in. in diameter.
- 8 pieces of bamboo or wood for bottom and top rails, 40 in. long x 1 in. in diameter.
- 8 hook and eyes, or heavy twine, raffia, or other tying material to faster corners together.

What to do:

Measure even spaces for 9 upright posts on each rail. Bore holes just large enough so the posts will fit snugly.

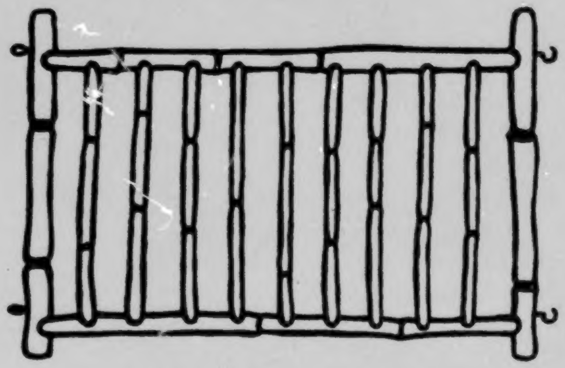
Put posts in the holes in the bottom rail, then put on the top rail to form one side of the play pen. Repeat for the other 3 sides.



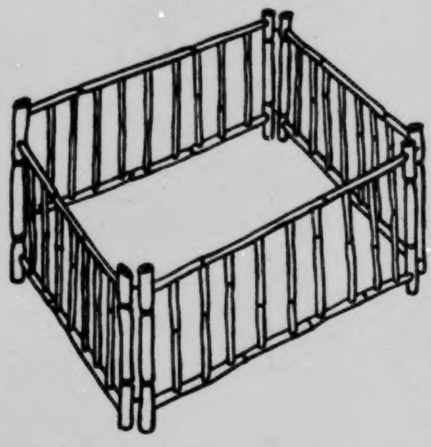


Bore holes for the top and bottom rails in the corner posts. Attach hooks to these 4 corner posts—top and bottom. Attach eyes to the other 4 posts so the hooks can be fastened into them.

Join a side of the play pen to two corner posts—one with hooks and one with eyes. Be sure the hooks point out of the pen so your baby will not hurt himself on them. It should look like this. Repeat the other 3 sides.



Hook the 4 sides of the play pen together. It will look like this.



If you do not have hooks, tie the corner posts together. It will work just as well. You can make a wood floor or use a mat to keep your baby off the floor or ground. The floor of the pen should be washable. Keep it clean.

Toys

You can make soft toys at home. Stuffed animals and dolls can be made of scraps of material. They should be washable.

Make them strong so the baby cannot pull off parts and put them into his mouth.

Very small toys are dangerous. The baby may put them into his mouth and swallow them.

Avoid sharp and pointed toys. They can hurt your baby.

DEMONSTRATIONS

Show how to:

Make a baby bed.

Make baby clothes.

Make a wall pocket, line a basket to hold baby clothes, or make a cupboard out of a box.

Sterilize baby dishes.

Prepare juice for the baby.

Make a mosquito net or screen for the baby's bed.

Bathe a baby.

Prepare to deliver a baby at home.

Launder diapers.

Prepare safe water for the baby.

Suggestions to Help You Give a Good Demonstration

—Prepare yourself carefully

—Know more about the subject than you plan to teach.

—Outline your demonstration step by step and write down exactly what you will say at each step.

—Practice your demonstration until you can do every step without hesitation.

—Use only equipment and materials available to the village families.

—Arrive at your meeting place ahead of the women and arrange all materials for your demonstration neatly and in the order you will use them.

—Plan for your audience to be seated so that everyone can see and hear easily.

—Use visual aids in your demonstration if they will help to make your presentation clearer.

—Ask one of the women to assist you. This helps to develop leadership.

Evaluate your own demonstration.

(1) Did the women learn how to do what you demonstrated?

(2) What evidence was given that the women plan to carry out this practice in their homes?

(3) How could this demonstration be improved?

For Healthy Mothers and Babies

Mothers must

- **take care of themselves while pregnant and after the baby is born**
- **prepare the home for baby's arrival**

Babies need to

- **be kept clean**
- **sleep alone in a clean place**
- **wear clean clothes**
- **eat clean healthful food**
- **drink safe water**

BOOKS TO HELP YOU

- *Red Cross Home Nursing*—American National Red Cross, Washington D. C. Published by Doubleday and Co., Inc., N. Y. 1951.
- *Prenatal Care*—U. S. Department of Health, Education and Welfare, Social Security Administration, Children's Bureau Publication No. 4.
- *Infant Care*—U. S. Department of Health, Education and Welfare, Children's Bureau Publication No. 8.
- *When Your Baby Is On the Way*—U. S. Department of Health, Education and Welfare, Children's Bureau Publication No. 391.
- *Healthy Mothers and Babies—The Pregnant Woman*—South Pacific Commission, Box 5254 C.P.O., Sydney, NSW, Australia.

IV. "HOW TO" SCHOOL HEALTH EDUCATION

Teachers Can Contribute to Child Health by Elsa Schneider, HEW, 1959 207

Opportunities for Correlating Health With Other Subject Areas excerpts from article by Elena M. Sliepcevich and Charles R. Carrol in The Journal of School Health, 1958 219

The Classroom Teacher and Health Education , from the report of the Intern'l Seminar on Teacher Preparation for Health Education, New Delhi, 1961 225

Suggestions for Constructing a Teaching Unit in Health 232

Teaching Learning Activities by the Directorage General of Health Services, Central Health Education Bureau New Delhi 235

Draft Syllabus for Health Education for Ages 6-11...... 264

Health Education of the Tropical Mother in Feeding Her Young Child by Derrick B. Jelliffe and F. John Bennett, Makerere Medical School, Uganda, 1964....... 287

TEACHERS CAN CONTRIBUTE TO CHILD HEALTH

Every school abounds with opportunities for providing education in health. However, the society which the school serves determines whether teachers will be expected to take advantage of these opportunities. In some societies the school is looked upon as an agency which should be concerned solely with the development of the mind. There appears to be no acknowledgement of the relationship which exists between the mind and the body, i.e., of the total development of the child and the school has little or no responsibility for the health of children. In other societies it is recognized that although parents have major responsibility for the health of their children, the school is expected or permitted to share in this responsibility. In these societies, there is a growing appreciation of the ways teachers can contribute to the improvement of child health. For example, teachers can provide educational experiences which favorably influence health understandings, attitudes and practices. They can create a climate which fosters the mental health of teachers and pupils, recognizes the individual needs of children, and gives boys and girls opportunities to help plan school activities. They can work with parents, health workers, and other adults in the community to create more healthful conditions and more adequate health services.

When teachers are expected to be concerned with the total development of children, their ambition is to help each child become the best person he can become.

These teachers

- recognize the interrelatedness of bodily health, emotional well-being, and intellectual development;
- know that the physical and mental health of a child affects his eagerness to learn, his capacity to participate in and profit from the activities of the school, his attitudes about himself and others, his hopes and desires, his outlook on life;
- believe that education in health can help boys and girls learn to live healthfully and that as young people grow toward maturity they will come to understand the values of providing and maintaining healthful conditions for themselves, their families, and others;
- have faith that educated people will take steps to improve living wherever they are by applying the knowledge they have and by seeking new knowledge as they strive to conquer disease and overcome adverse conditions;
- know that education in health must respect indigneous cultural patterns and practices and that when there is conflict between tested scientific facts and local beliefs they must seek help from respected elders of the community to find ways of harmonizing science and practices.

Although teachers cannot be expected to cure illness or work wonders, they can share with the home and the community the responsibility for helping each child attain optimum development consistent with his nature.

WHAT ATTITUDES, KNOWLEDGE, AND SKILLS SHOULD TEACHERS HAVE TO TAKE ADVANTAGE OF OPPORTUNITIES FOR EDUCATION IN HEALTH?

The conditions which exist in the locality where the school is situated determine to a great degree the attitudes, knowledge, and skills teachers need to take advantage of opportunities for education in health. For example, in a locality where no health resources are available to people, the teacher might make his greatest contribution if he knew (1) how to improve the nutritional status of children, (2) how to purify the water, (3) how to improve sanitation, and (4) how to work with people so that they will accept scientific information which is new to them and apply it to alter conditions and practices which may have persisted for years. This is no easy task. It requires insight, courage, patience, and time. The hope lies in sufficient preservice preparation in health education and continuous inservice education of the teacher and in a more adequate supply of qualified health workers in areas of greatest need.

It is possible to make generalizations about the attitudes, knowledge, and skills which will help teachers anywhere take advantage of their opportunities for education in health. By way of illustration, teachers should:

- be willing to share in the responsibility for providing education in health for their pupils;
- recognize that although all children grow toward maturity in somewhat the same way, each grows according to his own time and his own nature, and that even among children of like ages there will be differences in physical shape and size, and intellectual ability--that differences, as well as similarities, must be taken into account in planning the school program;

- understand that the growth of a child is affected by nurture as well as nature, and that in relation to health, nurture includes the provision of an environment which is safe and healthful; immunization against contagious disease; correction of remediable handicaps or assistance in becoming adjusted to those which cannot be corrected; proper nutrition; the regulation of such external factors as heat, light, and ventilation; the provision of an atmosphere--in school and out--which fosters emotional well-being; conditions which make possible a balance in work, exercise, rest and sleep; and consistent guidance in school and out of school so that each child can reach his full potentialities;

- know how to present experiences in health education so the child will change his perceptions and modify his behavior favorably as a result of his newly-gained insights. This is accomplished best through providing a favorable classroom atmosphere, involving the pupils in practical activities, securing a variety of understandable instructional materials, giving children opportunities for discussion, clear-thinking, problem-solving and evaluation;

- be able to produce interesting and timely instructional materials in health education utilizing the help of the children;

- make efforts to keep up with accurate information about health, including the findings of research;

- know how to secure technical help from local health workers, health and education departments, and other recognized sources;

- take advantage of situations which occur in school and in the community for health education;

- utilize the school and community health services and the school and community environment for health education;

- become sensitive to deviations from normal appearance and behavior and know what to do when they occur;

- gain skill in using selected screening procedures as, for example, screening for vision;

- learn how to make adjustment in the school program and environment for handicapped children;

- know how to help parents secure assistance in the solution of the child's health problems;
- participate in pilot projects which demonstrate effective procedures;
- cooperate in health surveys and in planning steps to solve health problems;
- participate in community meetings, and urge that at times children be included in these meetings so adults can benefit from their health learnings;
- reassure children who are making satisfactory gains and try to discover the cause for lack of achievement in others;
- maintain a high degree of personal health--remember that pupils look to teachers as examples and models.

UTILIZING OPPORTUNITIES FOR PROVIDING EDUCATION IN HEALTH

When school and community authorities believe it is important for the school to deal with common problems, teachers can use the attitudes, knowledge, and skills they have gained to include education in health in the curriculum.

Illustration: The children in the classroom were all approximately ten years of age. The teacher had reason to believe that most of them had the capacity to learn, yet many were underachieving. The children were well-disciplined, but many of them were listless and seemed to fatigue easily. The teacher asked a health worker to visit the classroom the next time he came to the school. As the teacher and the health worker talked, they wondered about the children's health practices: Were they getting sufficient exercise, sleep, and rest? What about their food habits? Did they feel responsible for their own health?

With the help of the supervisor of elementary education and the health worker, the teacher planned steps to be taken to find answers to these and other questions. She knew that this would require the cooperation of parents, so she arranged a meeting to be held at night in order to make it possible for the fathers to attend. As the parents talked, it was evident that they, too, were concerned about their children's health practices but they had assumed that much of the worrisome behavior was characteristic of boys and girls who were about ten years old.

In the days which followed, the children got enthusiastic about assessing their personal health practices. They asked many questions. The teacher and some of the children brought in a variety of materials which would help supply answers to the questions--factual information, illustrated books and pamphlets, pictures, models, posters, filmstrips, films, microscopes, and so on.

As the children studied about health, they communicated their ideas through oral expression, writing, puppetry, dramatization, and demonstration. They learned through reading, spelling, science, arithmetic, art, and other areas.

Their parents and teacher were especially pleased with the ways the children modified their own living:

They got more exercise, rest, and sleep.

They consistently ate better-balanced meals.

They were careful about their personal appearance.

They accepted more responsibility for maintaining a good environment at school.

They became interested in growing gardens at home and at school.

They accomplished more in school.

To varying degrees, they improved their living by applying the knowledge they gained as they studied things which became important to them.

Illustration: "Help Eradicate Hookworm"--this became the slogan of the students in a secondary school when a high incidence of infection was found among the student body. The students knew that hookworm infestation was high in this rural area but they had somehow accepted the condition as being inevitable. Through their health work in school they had discovered that hookworm could be eradicated. With the help of the school administrator, teachers, and health workers, these are some of the steps which were taken:

The students studied about the disease--its cause, spread, and control.

A map was made spotting the homes of those who were infected.

A health department sanitarian (a committee of students accompanied him) visited these homes. He discovered that the source of infection was the ground around the open outdoor latrines.

Plans were made for enlisting the help of parents and other adults in the community in overcoming the problem. This was done through inviting them to an evening meeting which included some recreational activities as well as the more serious business of discussing the major health problem--eradicating hookworm. A practical and well-illustrated lecture on the problem aroused interest. In time, practically all the latrines were improved and the incidence of hookworm infection practically disappeared.

The students who were infected received treatment.

But more then this happened. The students, with the help of their teachers, the nurse who served the school, and some physicians, decided to do more about improving child health:

- They helped with a campaign to have more children immunized against communicable diseases.
- They helped the primary school teacher weigh the boys and girls and test their vision.
- They worked on a community-wide nutrition program. They even canned fruits and vegetables for use in the school lunchroom.

In most countries, there will be localities where conditions for teaching about health will not be as favorable as the teacher would like. However, in places where unhealthful conditions have a harmful effect upon children, it is imperative that education be centered around village, town, or community problems. In such localities the teacher may be in the most favorable position to initiate steps to overcome some of the problems by working through respected elders of the community and parents as well as children. Fortunate is the teacher who has had the kind of preservice education in health which will help her face with sufficient skills and reasonable assurance the problems which exist, and who knows ways to get people to exert effort to improve conditions which are known to be harmful to health. Sometimes the teacher and pupils learn together what to do about problems. Sometimes health workers are available to help them.

The only way to give practical suggestions for the solution of problems in areas where serious health conditions exist and where trained health personnel are lacking, is to know the opportunities and limitations which do exist. However, it would seem that teachers who are located in such areas might avail themselves of such opportunities as these to include education in health in the school program:

- Demonstrate ways to make unsafe water safer. This can bring dramatic results in the reduction of illness.

- Find ways to improve the nutritional status of children. In subtle ways people can be taught to add to accepted foods of limited nutritive value, readily available nutritious foods that are not included in the diet. In some localities it may be necessary to make arrangements to provide children with at least one nourishing meal a day.

- Devise educational material which gives children information to help them improve their living and at the same time help them learn to read, write, and spell.

- Determine whether the "new" practices to be learned to improve health are best, or whether present practices, even though unusual, may be just as good.

- Involve the children in making the school a cleaner, more healthful, and safer place. This may require unusual effort and ingenuity on the part of both the teacher and the pupils. Among the things which might be done: Find ways to supply safe water at school; in areas where flies are a serious problem, find ways to provide "screening" and to eradicate breeding conditions; where intense sunlight prevails, put up bamboo shades which filter out the sunlight but permit the flow of air--the children can learn to regulate the shades according to need.

- Devise ways with the children's help to exterminate or trap rodents in areas where rodent control is a problem.
- Work with parents to have children immunized against contagious disease prevalent in the locality.
- Enlist the help of children in planning for the sanitary disposal of wastes.

These illustrations serve merely as examples of ways education in health can be woven into the curriculum. Interested teachers can find many ways to include in the school program the suggestions listed under Health Instruction (pages 9-11) in the Study Guide on Teacher Preparation for Health Education. The experiences to be included in the school program and the methods used in teaching about health will depend upon the actual situation, the interest and ability of the teacher, and the readiness of the children.

IN SUMMARY

The world over, there is the hope that children will be able to attain a high degree of bodily health and emotional well-being. There is the belief that healthy children are in a favorable position to meet the demands of living. In all areas of the world, teachers, through working with children in school, can do much to improve the health of people. There is ample evidence of this fact.

Teachers are most likely to utilize opportunities for providing education in health when they:

- are situated in localities where people believe that the cooperation of the home, school, and community is essential to the good development of children;
- recognize that family and cultural expectations, customs, beliefs, and practices in relation to health must be respected;
- utilize available health resources;
- enlist the cooperation of respected elders in the community;
- provide a school environment which itself is healthful and safe and which encourages good health practices;
- create a school atomsphere which is conducive to emotional well-being and to achieving according to ability;
- relate health education to the life of the community;
- provide for continuity in health education;
- understand and apply the principles of learning in working with children;

- come to know each child--his capacities and his limitations, his perception of the tasks to be accomplished, his attitudes about himself and others, his hopes and aspirations, his previous experiences, his home;
- recognize that most children want to achieve according to expectations but that no child should be expected to achieve beyond his best efforts;
- utilize a variety of meaningful instructional materials;
- encourage self-activity on the part of children;
- serve as good examples to the people.

As teachers utilize opportunities to provide education in health in ways which have meaning to children, an increasing number of boys and girls will be on the way to achieving optimum physical, mental, and social well-being and teachers will have made a major contribution to the welfare of the world.

Prepared by
Elsa Schneider, Specialist
Health, Physical Education
Recreation and Safety
Office of Education
U. S. Department of Health,
Education, and Welfare
Washington 25, D. C.

August 1959

OPPORTUNITIES FOR CORRELATING HEALTH WITH OTHER SUBJECT AREAS*

The following items constitute several opportunities for correlating health with other subject areas. They should be considered, not as the total range of correlation possibilities, but as samples which might serve to assist instructors in realizing the health implications and potentialities of their respective subjects.

ART

1. The importance of color harmony and its relation to emotions and attitudes.
2. Consideration of art as a satisfying emotional and creative outlet; a worthy use of leisure time.
3. The construction of posters for health drives and safety campaigns.
4. Making graphs to show vital statistics and accident facts.
5. An appreciation of healthy, normal human figures as subject models.
6. Safety precautions to be followed in mixing paints; consideration of lead, cobalt, and radium contents of various paints, as well as volatile chemicals.
7. Necessity for proper lighting as an aid to effective drawing and painting.
8. Proper disposal of paints and oil-soaked rags.

BIOLOGICAL SCIENCE

1. Cellular development and the formation of tissues and organs as related to physical growth.
2. Scientific methods vs. superstition in treatment of diseases.
3. Relation of genetics to human development and health.
4. The biology of infectious diseases, body immunity, disease control.
5. Communicable diseases, methods of control; the antibiotics.
6. Basic structure and functions of animals, particularly mammals.
7. Consideration of the basic functions of digestion, assimilation, elimination, respiration, and irritability.
8. Aspects of sexual development; reproduction as exhibited in plants and animals.
9. Sources of food, their processing, and relation to good health.
10. Protection and purification of water, milk, and foods.
11. Body care as insurance of good health.
12. The effects of alcohol, narcotics, and tobacco on the human organism.
13. The danger involved in self-medication and the need to seek appropriate medical attention.
14. Survey of common injuries, and emergency first aid measures.
15. School and community health services; local, national, and international health agencies and their functions.

---

* Excerpts from Elena M. Sliepcevich and Charles R. Carrol (Ohio State University) "The Correlation of Health with Other Areas of the High School Curriculum" The Journal of School Health, November, 1958.

CHEMISTRY

1. The relation of fats, carbohydrates, and proteins to nutrition.
2. Chemotherapy and disease treatment.
3. Usefulness of antiseptics, anesthetics, and insecticides.
4. The chemistry of detergents and other cleansing agents.
5. Importance of water for proper body function; water purification, methods and the softening of water.
6. Osmosis applied to physiological functioning.
7. Colloidal chemistry as related to medicinal preparation, and the precipitation of smoke impurities.
8. The biological principle of the oxygen tent and the used of oxygen relative to health.
9. The physiology of the "bends."
10. Radioactive substances for disease control and the tracers in biochemistry.
11. The relation between addition of fluorides to drinking water and dental health.
12. Precautions in handling and use of chemicals, chemical apparatus, glass tubing, thistle tubes.
13. Lab safety, emphasizing precautions against fires, explosions; the treatment of burns and cuts.
14. The chemical analysis of the human body, and of common foodstuff.

COMMERCIAL ARTS

1. Correct posture as it affects skill and speed in typing and shorthand; relation to energy conservation.
2. Good physical and mental health, and their importance in good performance on the job.
3. Cultivation of effective public relations; telephone and letter-writing courtesy.
4. A study of social adjustments and aspects of maturity in business life.
5. An investigation of group insurance, and policies regarding sick leave and job security.
6. Analysis of the causes of absenteeism and its relation to business in terms of time and financial loss.

DRIVER EDUCATION

1. The importance of mind and muscle coordination.
2. Effect of alcohol and narcotics on driving ability.
3. Study of eye-sight and the necessity of adequate vision.
4. Safety rules for drivers, pedestrians, and bicycle riders.
5. Need for road courtesy and patience.
6. The necessity for stable emotions and logical thinking.
7. A study of accident facts and statistics.
8. The organization of safety patrols and safety councils.
9. The relation of sleep and proper eating to personal energy and stamina.
10. Emergency procedures to follow in case of an accident; first aid.

ENGLISH AND SPEECH

1. Emphasis on health vocabulary and the spelling of common health terms.
2. The composition of essays and themes on health topics, especially current problems concerning health matters.
3. Library reference and research on specific health topics, socialized medicine, fluoridation of water; function of health agencies.
4. The use of health heroes as subjects for biographical sketches.
5. Oral reports and debates relative to health, personal adjustment, and group living.
6. The writing of original health slogans, plays, and radio and television scripts in connection sith local health drives and campaigns.
7. Making adjustments through speaking with emphasis on getting along with others and oneself; public relations.
8. Explanation of normal change in male's voice at puberty, a secondary sex characteristic.
9. The cultivation of reading as a means of relaxation and recreation.
10. The use of selected reading lists based on books with a health or medical theme as a means of stimulating career interests.

GUIDANCE

1. Consideration of personal health in relation to career choice, occupations.
2. The study of health records in evaluation of pupil problems.
3. Relation of food and rest to mental health, work efficiency.
4. The recognition of health hazards in certain occupations.
5. Wise use of leisure time to recreate and to promote mental health.
6. The effect of worry and overwork on health status.
7. Recognition of absences due to illness as a factor in causing pupil problems and maladjustments.
8. Consideration of the "whole pupil" in inventory and counseling activities.

HOME ECONOMICS

1. The relationship between proper diet and fitness.
2. Sources of foods, their storage, processing, and preparation.
3. Sanitation of the cooking area; health of the cook; "Typhoid Mary".
4. Home nursing and child care.
5. Safety in the kitchen and the prevention of accidents in the home.
6. Importance of pasteurization of milk; proper methods of canning to preserve foods. Examples and causes of "food poisoning epidemics".
7. The Pure Food and Drug Law and its provisions.
8. The value of personal grooming and social graces.
9. Acquaintance with basic first aid procedures.
10. Selection and proper wearing of clothes.
11. Home management; ventilation, heating, planning, recreation, marketing.
12. Common problems of marriage and personality adjustment.
13. Consideration of forming appropriate boy-girl relationships, courtship and marriage.
14. The effect of decorating schemes and colors on human emotions.

INDUSTRIAL ARTS

1. Safety precautions in using hand tools, machinery.
2. Importance of first aid in shop accidents.
3. The use of dust filters and similar apparatus in promoting healthful working conditions.
4. Precautions in the use of taxic materials and adequate provision for disposal of wastes.
5. Emphasis on safety in construction.
6. Consideration of appropriate clothing to be worn in the shop; aprons, goggles, etc.
7. Danger of "blood poisoning"; tetanus in relation to work accidents.
8. Safety guards on dangerous machines; the painting of various maching parts in different colors to indicate relative degrees of dangerousness.

MATHEMATICS

1. Calculation of statistical probabilities by projecting health data.
2. Computing birth, illness, accident and mortality rates.
3. Mathematical relationships between illness and absences.
4. Cost of illness, medical expenses, and hospital services.
5. The use of statistics, such as population, life expectations, and stages of human growth to construct graphs, curves, and correlations.

MUSIC

1. The effect of posture and breathing on tone formation in vocal classes.
2. Consideration of music as an emotional outlet and as a desirable leisure time activity.
3. The health reasons for avoiding the use of others' wind instruments.
4. The desirability of cleaning mouthpieces of instruments.
5. Voice control as a function of the abdominal muscles, lungs, voice box, nasal passages, and oral cavity.
6. Detection of hearing and sight losses in music classes.
7. The carrying of heavy instruments and their effect on posture.

PHYSICAL EDUCATION

1. Emphasis on safety precautions in all activities and in the use of special apparatus.
2. Application of basic kinesiological principles to everyday life situations.
3. Hygienic habits in locker and shower rooms.
4. Prevention of athlete's foot and impetigo through hygienic measures.
5. The development of skills for recreation in leisure time.
6. Mental health contributions of physical activity.
7. Development of sense of achievement, personal evaluations, and self-direction.
8. Care of injuries and first aid procedures.
9. Promotion of personal health, bodily cleanliness, proper dress.

PHYSICAL EDUCATION (Continued)

10. Responsibility for health and safety of others.
11. Consideration of sex differences in performance and achievement.
12. Physiological effects of activity; fatigue, exercise, rest, conditioning.
13. The relationship between nutrition and physical fitness.
14. Formation of desirable boy-girl relationships through corecreation.
15. Relation of individual physical differences, size and strength, to ability and performance.
16. Development of fair play, sportsmanship, and cooperation through group activities.

PROBLEMS OF DEMOCRACY

1. The study of official and voluntary agencies and their function in public health; the Public Health Service, Local Health Department.
2. Functions of health officers, health commissioner, coroners, inspectors, sanitation directors.
3. A knowledge of available community health services.
4. Consideration of health activities of clubs, labor organizations, and various other societies.
5. An analysis of the recreational facilities available in the community.
6. Legal requirements for driving, use of firearms, installation of certain machines and apparatus.
7. The health status of the community and the nation.
8. Study and discussion of current health legislation; fluoridation, socialized medicine.
9. Discussion of family health problems; the advisability of voluntary health insurance; cost of medical care.
10. Health problems of the nation's elder citizens.
11. The relation of slum areas to physical and mental health.
12. Sociological aspects of disability and disease.
13. The effect of city zoning in promotion of community health.
14. Problems of community sanitation and efforts to control communicable disease; inspection, adequate waste and sewage disposal.
15. Importance of food preservation in interstate and international commerce.
16. Health regulations and inspections relative to international travel.

SCIENCE (GENERAL)

1. The effect of weather and climate on health and disease.
2. Health benefits and hazards resulting from modern inventions.
3. The nature of sound and vision, functioning of the eye and ear.
4. Plants and animals as sources of foods and disease.
5. Insuring safe drinking water and foods; pasteurization of milk.
6. Community sanitation and the general welfare; functions of health agencies.

SCIENCE (GENERAL) (Continued)

7. The effect of sunlight on human body and health.
8. Nutrition studies using white mice in vitamin experiments.
9. Study of heating systems, proper ventilation, air conditioning.
10. The advances of medical science; disease control, immunity.
11. Life cycles of insects, birds, mammals to serve as basis for sex education.
12. The necessity for personal hygiene, wholesome health habits.
13. Scientific investigation as the foundation of advances in health science.

SOCIAL STUDIES

1. Relation between concepts of immortality and preservation of the body.
2. The influence of weather and climate in health, efficiency.
3. Problems of community living; evolution of the public health movement.
4. Consideration of international health status as related to economics, level of education, availability of medical personnel.
5. International significance and implications of the World Health Organization and "health for peace" movements.
6. Ancient philosophies of health and methods of physical training.
7. The role of health and disease in international relations; the Crusades, Hundred Years War, the Roman Empire.
8. Historical significance of the great plagues and their relation to population statistics.
9. The evolution of hospitals and the medical and nursing professions.
10. History of medical practices and techniques; superstitions, fallacies.
11. Contributions of scientists and inventors to advances in medical science.
12. The conquest of yellow fever in the construction of the Panama Canal.
13. Ancient sanitary practices; the aqueducts and public baths of Rome.
14. Significance of the Pure Food and Drug Law; health legislation.
15. Health problems related to specific geographical areas of the world.

VOCATIONAL AGRICULTURE

1. Sources of foods, their processing and storage.
2. Safety measures in relation to farm machinery and tools.
3. The need for knowledge of first aid procedures.
4. Barn sanitation, disposal of sewage, wastes, and garbage.
5. Effective control of diseases among farm animals.
6. Emphasis on cleanliness in handling of milk, and in butter making.
7. Knowledge of scientific reasons for dairy regulations.
8. The proper use of insecticides, disinfectants.
9. Need for tuberculin testing of cows and the importance of milk pasteurization.
10. The effect of the direct rays of the sun on plant and animal life.
11. Physical benefits of outside work and on active farm life.
12. Importance of proper drainage, sanitation; the testing for potable water.

(1164)

THE CLASSROOM TEACHER AND HEALTH EDUCATION

Accepting as a fact that teachers have responsibility for health education, we shall give our attention to how the teacher can fulfill this responsibility. Health is defined by WHO as "a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity." In preparing these remarks on "the classroom teacher's responsibility for health education," we have taken this broad view.

Healthful Environment

Since the condition of the environment influences learning, the teacher has a responsibility for seeing that it is the best possible within the existing situation. In most cases, the classroom cannot be made larger. A new and shiny building is not available to every teacher, the number of windows cannot be increased, special heating and cooling facilities are not always available, safe water is not available in every school, and individual drinking facilities are not present for every child. Seats of correct size are not available to every student and in some schools there may be no seats at all. In fact, no school has enough of everything to reach the ideal, but every school can make improvements with what is accessible.

What Can the Teacher Do?

First of all, the teacher will assess the situation. Until he knows what is good in his present situation and what needs to be done, he will not be able to do much. Secondly, he will make his observations known to the proper authorities. Thirdly, he will do what he can himself, with the help of thers, to make improvements. The following are some possibilities:

> Adjust seating arrangements to take best advantage of light for reading and for comfort to eyes. Have children seated on side of room with best light. Do not have children face open windows or door where brightness outside causes glare. Teacher may sit in place assigned to students to make test of the situation. Teacher should not stand or sit in front of a window or open door when teaching. This makes it difficult for children to see and tires them unduly.

Reprinted with permission of the authors and World Confederation of Organizations of the Teaching Profession (WCOTP) from the report of the International Seminar on Teacher Preparation for Health Education held in New Delhi, 1961.

Make adjustments to provide comfort and protection against cold, heat, wind, sunlight; for example, in one school visited a child was shivering from the cold wind blowing in. Adjusting his seat and putting on his coat made him much more comfortable and better able to concentrate on his studies. Opening or closing windows and doors, as needed, provides comfort and protection.

Do things to make the room brighter, thus more comfortable for study and more conducive to learning. Room may be whitewashed or painted a bright color. It is not expected that every teacher paint his classroom white, but many, with the help of students or parents, have whitewashed, or painted classrooms when it was not done otherwise. Adjusting doors, windows, curtains, shades, etc., also helps to get the proper amount of brightness inside.

Adjust the seats to size of student. Where seats are not all of the same size, a check may be made to see that largest children are using the largest seats. In schools with more than one room, seats may be exchanged with other classes to make better seating for all. Adjustment may be made in ways. For example, in one first grade class visited, the children were seated at tables. One table, being higher than others, was not at all suitable for the children working there. By having a small length cut off each leg, the table was made the correct size for children to study in comfort. Where no seats are used and children sit on the floor, the following may be given attention: cleanliness of floor, shoes well cleaned before coming inside or shoes may be left at entrance; mats used properly, where available, and kept clean; and seating arranged to allow children passage for walking.

Take steps to see that there is safe water for drinking. Consult health authorities as to what is to be done. Where needed, take steps to have water made safe. This will depend upon local conditions and what can be done by parents, students, and local officials.

Of course, the teacher is not expected to make a new well himself, but he can furnish the leadership for getting one to provide safe drinking water.

Where sanitary drinking facilities or individual drinking cups are not available, the children may be taught to use what is available in a sanitary manner. It was observed during a visit to one school, where drinking water was stored in proper earthen pots, that the children had been taught to take water with a long-handled dipper, pour it into their hands and then guide it into their mouths so that the container of the dipper did not touch any part of the child. Children may also be taught to pour water directly in the mouth without touching the container to lips.

Where latrines are available, teacher will stress proper use and upkeep, giving instructions as needed. Where none are available, the teacher may take steps to get them. In addition to using latrines to prevent diseases, they are important for aesthetic reasons. Sights of filth, waste, and dirt are unpleasant to the eye. Cleaning up and, more important, keeping things clean are civic responsibilities every teacher needs to teach.

Most of these things can be done with only a small amount of time and effort. Even where more time is required, it will be a saving in the long run to have children in better health and schools in a condition conducive to study and learning.

A good environment encourages learning as well as being a definite teaching aid itself. What children see and use in schools is what they know. If they do not see and use proper sanitary school facilities and if they do not help to keep them in a clean and tidy condition, they will never learn to do so. The environment is emotional also. Relationships between pupils and teachers, parents and teachers, and pupils themselves can influence learning in any subject. All of the things done to make the environment more conducive to learning, will also be important in the promotion of health and prevention of diseases. The teacher will need help, guidance, and encouragement to fulfill his responsibilities in these matters.

Health Services

The teacher is interested in the improvement of the health of individual children. His interest leads to better learning by each child which results in better total class achievement in whatever subject is being studied. Learning how to take care of his own health is a part of the civic duty of each child. Before the teacher can do very much to bring about any changes in health conditions of individual children, he must first learn the general characteristics of healthy children and the signs which indicate poor health, defects, or illnesses.

What Can Be Done By the Teacher?

The teacher can observe the children daily, or more often, to notice any deviations from normal looks or behavior.

He can find out, usually at the beginning of school term or by reviewing records, as to whether children have been vaccinated or inoculated as recommended.

The teacher can become informed as to what services are available to the school or to the children of the school through some service to the family.

When the teacher notices that a child is in need of medical attention, he may bring this to the notice of health personnel, usually the nurse serving the school; notify the parents; talk with student in accordance with his age; and talk with older brother or sister.

Many examples are known of teachers who have brought some problem to the attention of parents. The child of a doctor was discovered by a teacher to have vision difficulty. The father was very grateful and the child's eyes were given immediate attention. It is reassuring to parents to know that a teacher has this kind of interest in children. Examples are known where older children have taken steps to seek service after a teacher has brought certain conditions to their notice. One girl in tenth class had not realized that her vision was very bad in one eye until the teacher tested her with the Snellen chart. The girl then secured proper services. Older brothers or sisters may be told of health needs discovered in younger children in the same school and what needs to be done. The older child can interpret this to his parents.

Certain adjustments may be made to accommodate children with special needs. Children who are hard of hearing may be seated nearer the teacher. If they have vision defects, they may be seated nearer the chalk board and in the best light for reading. Children with physical handicaps may have physical activities modified accordingly. Some with certain handicaps may need to be encouraged to take part in games.

Where medical examinations are given in the school, the teacher may be present, if at all possible, in order to find out what is needed for each child. If he cannot be present, he will get information for each child. The teacher can then encourage child and/or his parents to carry out the suggestions given by the health personnel. The teacher may help child to learn about his own condition.

As a part of the civic responsibility and community study, students may learn about the functions of the health services personnel and clinic and hospital services. The child can be helped to develop an attitude not only of accepting but of seeking services to improve his condition, promote health, and prevent diseases.

The teacher takes advantage of his opportunities to work with health workers who visit homes of students. Often the nurse or other health worker going into the home can bring information to the teacher as to what may be affecting the child's learning as well as his health. The teacher will need help and guidance to take advantage of his opportunities in the health services.

Health Teaching

The situation in which the teacher finds himself may determine the type and quality of health teaching he does. The teacher who is responsibile for teaching all subjects, as is true for most primary teachers, will be responsible for the health teaching in that class. The teacher who is in a special subject field, as for example science or mathematics in the secondary school, can include health topics appropriate to his subject. Many education and health leaders have said that health teaching should be more practical. Following are some examples of how teachers may fulfill their responsibility for health teaching.

What the Teacher Can Do

One of the very first things the teacher can do is to take care of his own health and practice desirable health habits both in school and in private life. This sets a good example for students. Every teacher can determine to some extent what health knowledge children already know. Some type of test may be given. Observations can be made and knowledge of these will help the teacher to plan in a more practical way. Finding out about the home and community conditions is essential if teaching is to be practical.

The lessons planned should then be in relation to the needs within the framework of any specified syllabus. An incident which happened during a visit to a fifth grade class illustrates practical teaching in nutrition. The visitors made inquiry of the children themselves as to how much they had grown during the past year. Naturally children of this age are keen to have others believe they have grown a considerable amount since to "grow up" is one of their chief desires. The visitors pursued the matter by asking what they were eating to make them grow. Very quickly the reply came that they were eating "balanced diet". The next question asked was "What is balanced diet?" A brief hesitation and then the reply, "Protein, vitamins, carbohydrates." Another question was put, "How do you eat protein, vitamins, etc?" With much hesitation and some encouragement the children were able to name some foods. But the students seemed to have very little, if any, understanding of the relationship between the foods eaten and their own growth; they had only an academic knowledge of a balanced diet.

A visit to another class revealed that their study of nutrition had started with the foods each child had eaten for one day. By comparing these with a "balanced diet" plan, they learned something about what foods were needed to "balance" their own diets and different ways they could be balanced. Any teaching about foods should include the foods used in the homes, the foods eaten by the children, and foods readily available in the community.

Another example of making the health teaching practical relates to the type of sanitary facilities used in the homes, and the terminology used. In the school in a certain rural community the children were told to take baths daily, as they are told in many schools. The textbook used showed bathrooms equipped with modern fixtures. One little boy stated that he could not take baths because he did not have a bathroom. Upon investigation the teacher learned that many of the homes were not equipped with the kind of facilities being "taught about" and the terminology was different.

There are many examples of how schools have played an important role in campaigns for control of diseases. One high school special-subject teacher for science and health did a special study on hookworm with the class. The study included a survey of student's home facilities by students themselves; stool examination, through local health center, to determine infection; study of cause, treatment, methods of control; treatment of infected persons; and construction of sanitary latrines at home with students themselves doing much of the construction. Teachers in the vicinity of Delhi are doing practical teaching concerning smallpox control. When the vaccinator comes to the school to vaccinate the students, the teacher sets the example by having his vaccination first.

The teacher of special subjects such as languages, science, mathematics, social studies, and the like, can fulfill his responsibility in two distinct ways: First, by helping students develop practices which will be conducive to learning (references were made to these under environment and services); and secondly, by including health topics related to that particular subject. Language study may well include topics on health for essays, themes, stories, etc. Social studies certainly may include much on health as a part of the civic duty of individuals and governments. Learning to apply knowledge in the lives of the people, especially for the promotion of health and prevention of disease, is an important part of science study. Almost any subject provides some opportunity for health teaching, but the special-subject teacher will need encouragement tocorrelate health topics.

Another point to be understood. The health teaching should be in relation to the interests of children and youth. Many times the teaching is lifeless and uninteresting. It often is concerned with bones and not with the boy or girl surrounding the bones. It is concerned with diseases, death, filth, dirty hands, dirty clothes--subjects which are not very appealing to growing boys and girls. Many things about their active, fast-developing bodies of highest interest to them are completely missing from health study.

It has often been said that there is no time for health teaching. The daily program is over-crowded. There is only so much time in each day. Then it comes to a matter of the use of that time--how to include a few health topics and omit something of lesser importance; how to provide opportunity, within the time, for students to take active past when they have finished other work ahead of the class.

Much can be done within the existing time and with the resources available to the school. But, as we have already said several times, the teacher will need help to know about the health problems, to know what students can do themselves and how to help them, to know what resources are available, and how to get use of them, how to plan practical health study, whether in a primary school or in a special subject in a secondary class.

We have tried to call your attention to some of the thihgs which teachers may do. These are not meant to imply that a teacher should do all of them but only to show the kind of practical teaching which can be done to promote learning in any subject as well as to promote health and growth. If every teacher does only a little to promote health and prevent disease, think how much it can mean in the economic and social development of your country, andof our countries, and what it can mean for the health of the individual boys and girls in that teacher's class.

By Kamla Sood
DADG, School Health Education
And
Annie Ray Moore
Regional Advisor in Health Education
WHO Regional Office for S. E. Asia

SUGGESTIONS FOR CONSTRUCTING A TEACHING UNIT IN HEALTH

A teaching unit should be centered around a specific problem or aspect of a broad area such as health. The unit should be arranged as a specific plan for teacher and student activities and indicate leads for futher activities as well as ways of evaluating change in students' attitudes and improvement in their skill.

Purposes and Objectives

Clearly defined purposes and objectives provide the guidelines to be followed in constructing a teaching unit. They should be specifically relatedto attitudes and feelings as well as knowledge and skills.

Initiation of the Unit

The introduction of a unit is particularly important. It should intrigue and capture the students' interests and so stimulate them that they will want to explore and study the related problems and to seek the knowledge required to formulate solutions to them. The introduction should also serve the following purposes:

1. Clarify reasons for studying the problems.
2. Link past experiences to content of the new unit.
3. Provide an overview or preview of the scope of the new unit.
4. Offer opportunity for teacher-student planning of subject to be studied and method of work.

Methods and Materials

Since good health depends more on what an individual does and how he feels toward himself and others than on his being an arsenal of facts about health, the teaching methods most frequently used should provide opportunities for students to learn through doing. The use of personal appraisals, student surveys of community needs, services, and resources, panel discussions, and sociodramas are examples of methods which provide students with opportunities for gaining insight into and knowledge and understanding of certain personal and group health problems. Through participation in such activities, students gain in appreciation of the attitudes, practices, and habits that are desirable in protecting and improving health. Interviews with resource persons in community health agencies, group discussions, study trips, and participation in the activities of a community health service agency and in individual and group research or exploratory projects which provide opportunities for students to have satisfying and realistic learning experiences should also be liberally used in developing health units.

Pamphlets, reports, and bulletins from public and voluntary health agencies and professional organizations, together with selected articles from professional journals and popular magazines, provide a wide range of reading materials in addition to textbooks and other books in the health area.

Audio-visual materials are among the best teaching and learning aids, as much of the content in the health area involves feelings and attitudes, understandings of processes and functions and recordings, posters, as well as films, filmstrips, slides, and flat pictures aid materially in interpreting health information and in developing understandings of relationships.

Culminating Activities and Evaluation

A well-planned teaching unit should include culminating activities that will aid students to see relationships and understand the significance of the acquired information and the attitudes and skills needed to achieve the objectives.

Progress may be appraised in many ways. In the health area, changes in attitudes and practices are, perhaps, even more important than the amount of new information acquired. Therefore, methods of evaluating those changes in a student's attitudes and practices should be included in the evaluation plan for the unit. Situational tests which give a student an opportunity to indicate courses of action in certain circumstances are a means of measuring not only his knowledge but how he feels about the situation. Tests involving critical thinking also are useful in appraising change, growth, and development.

To appraise progress, a base line must first be established for each phase of progress to be appraised. Pretests and inventories of practices are means of determining base lines which can be compared with post-tests to help determine progress. Useful means of appraising changes in attitudes, practices, understandings, and knowledges include attitude scales, observations, anecdotal records, analyses of creative activities resulting from interests developed during the unit and objective knowledge tests.

Reference Materials

The teaching unit should include a list of specific materials for use by the teacher and students. It should include books, journals, pamphlets, reprints, charts, models, and visual aids. The teacher should have access to a good library and the services of a librarian who can suggest and help to obtain books, pamphlets, and other teaching aids. Periodicals devoted to health and physical education, as well as popular magazines and professional journals, should be consulted regularly for reviews and notices of new materials in the field of health education. Some sources of teaching materials are listed in the Appendix to this Guide.

SUGGESTED TEACHING METHODS

Teachers should seek the best and most effective methods of presenting concepts and factual information to their students. Teachers who are helping teen-agers gain knowledge and understanding in the health area have the same expert resources from which to obtain help in the selection of teaching methods as do teachers in other areas of the curriculum.

Teen-agers are frequently more willing to verbalize knowledge than to make practical use of it. Realistic learning experiences will give them opportunity to make practical applications of their knowledge. In learning to apply their knowledge of health, students can be led to accept responsibility for their health and that of others.

Learning takes place in every situation. The learning of "facts" and the learning of skills in working with others, in taking responsibility, in determining one's own needs, and in utilizing opportunities to meet those needs are among the many "learnings" which can be effectively guided and directed in a classroom setting. Learning takes place in situations involving cooperation between leaders and followers and is centered around definite, meaningful problems.

If students are given many and varied opportunities to participate actively in the planning, development, and evaluation of their experiences in the health area, they will have the kinds of learning opportunities teen-agers need and want. In participation, a student learns by actively reflecting, proposing, interpreting, and experimenting. Real learning goes on when a student gets responses from other individuals to his ideas and actions because those responses help students to think, to evaluate, and to test their attitudes and actions. Certain teaching methods provide greater opportunities for this kind of active student participation than others. These teaching methods are particularly desirable as ways and means toward helping youth understand the need for knowing about and becoming skilled in practices that maintain good health or improve health status.

In addition to the more commonly used teaching methods such as lectures, question-and-answer periods, and student reports, several methods are worthy of exploration that provide opportunities for actively involving students in learning experiences which require the acquisition of facts, analysis of situations, and planning for realistic action. Among such methods are: (1) role-playing and sociodrama, (2) problem solving, (3) field experiences, such as surveys, observations and interviews, participation as a worker, and field trips, (4) buzz sessions, (5) self tests, and (6) games.

DIRECTORATE GENERAL OF HEALTH SERVICES
CENTRAL HEALTH EDUCATION BUREAU
KOTLA ROAD, NEW DELHI

TEACHING LEARNING ACTIVITIES

A resource list for use by those responsible for preparing syllabi, teacher guides, outlines for text books, for student work-type books, or for other such material.

These activities may be modified to suit the facilities in the school, the resources and materials available, the competencies of the teachers and the age and maturity of the students. For this reason, this has not been categorized classwise.

These activities have been organized under the same topic headings as in the draft syllabi.

I. PERSONAL HYGIENE.

1. The teacher may set example by practicing those things which he wants the children to learn and to do.

2. Have drills on: a. Handwashing before and after eating; b. Washing mouth after eating.

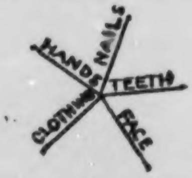
3. Have health committee of students to help the teacher assess personal hygiene of the class members. The committee members may be called class monitors or "doctor and nurse". Items to be checked are:

    a. Hair (combed, clean).
    b. Face (clean).
    c. Mouth, teeth (washed) nose, eyes.
    d. Clothing (clean - washed).
    e. Hands, feet (clean)
    f. nails (cut short and clean).

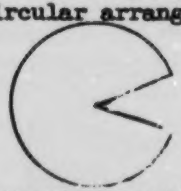
4. Encourage students to ask questions. Make use of these questions to teach lessons.

5. Have health inspections by teachers after prayers.

6. Have health parade for checking on a different practice each day. A game may be made as follows. The health practices (habits) which are being taught may be written in circular arrangement as:



cut a circle out of cardboard with a section removed as:



Fasten the circular piece over the list of health practices with the centers coinciding, and in such a way so that the circle will spin around. Each day a child (one member of the health committee, or a different child each day until all in the room have had a turn) spin the circle. When it stops, one practice will be exposed through the section of circle which had been removed. This will be the practice for checking in the health parade that day: On certain days (one weekly, or twice monthly) all practices will be checked.

7. Have each child make a plan forchecking his own habits. A small chart may be prepared with places to tick daily along side each habit.

8. Give a lcass award (weekly or monthly) for the class showing best achievement in cleanliness.

9. Students may compose songs, make a drama about personal cleanliness, good hygiene habits, etc.

10. In connection with art and craft work students may make a poster, make drawings (cartoons), prepare displays depicting hygienic habits.

11. Each child may tell (write, show by visuals) what he/she does to be neat and clean.

12. Arrange an exhibits of "minimum" essentials for personal cleanliness as water, soap, twig for brushing teeth, etc.

13. Give a drama (make poster or chart) of helpers for cleanliness as: soap, water, comb, datum, etc. A child may carry a placard to indicate the article he is to represent, or he may have a head piece to represent the article, or he may carry the actual article itself.

14. Make a list of good health rules for an athlete. Compare with good health rules for average citizen.

15. Make a class health book. Each child may prepare one page each using a different health practice. Use some words and visuals to tell the practice, how to do it, why it is important. Put all pages together to form the book. A small committee (may be health committee) may prepare appropriate covers for for the book. Show and explain to parents who visit the school.

16. Play "How not to do" - "How to do". The class may be divided into two groups. A member from one group will show how a health practice should not be done. Following this a student from the other team will show the correct way to do it.

17. Class compose a song about the good health practices they do daily. Put actions to the practices, sing and act the song.

18. Make list of health practices to be done in getting ready to come to school. These may be made into action - song as in 17, as "This is the way we wash our face when we get up in the morning", "This is the way I clean my teeth just after eating", etc.

19. Demonstrate, and have students practice, proper method for taking water from water - storage -pot and drinking without contaminating dipping container (without touching the container to any part of the body). Dip out of the storage pot with a container with long handle, pour to hand and guide water into mouth. Thus the container is not touched except at end of handle. Water may be poured directly into mouth without touching to lips. Dipping container may be kept in suitable place to be clean.

20. Have discussion about washing teeth, taking bath, and about the importance of being neat, clean and tidy.

21. Show children how to make proper neem twigs for cleaning teeth, or have some child to show.

22. Have children to bring to class the different kinds of articles for cleaning teeth. Arrange a display. Discuss the uses, advantages or disadvantage of some.

23. Make a game. Have each child to close his mouth. Then write the number of teeth he thinks he has at the present time. Class may then be formed into teams of two on a team. Each counts the teeth of the other. Also the condition of the teeth may be assessed as to cleanliness, decay.

24. Compile a list of "things to do to have good teeth".

25. Make drawing, or make model out of clay, to show temporary teeth. Or each child may make model of his own temporary teeth at the present time.

26. List the foods to eat (those in his community) to make strong teeth and keep gums healthy.

27. "Give your teeth some chewing exercises" Tell what kinds of foods give "chewing exercise".

28. "Teeth which last a life time". Each child may write a story about this topic.

29. Give a puppet show about how to keep teeth strong and shining. Simple hand puppets may be used. To make a puppet you will need:

    a. A small piece of stiff paper or light weight cardboard.
    b. Some string
    c. Some old paper - like newspaper.
    d. A piece of paper or cloth to cover the head.
    e. A piece of cloth for dress.
    f. Needle with thread for sewing cloth for dress.
    g. Paint or crayon for making features on face.

Procedure

a. Roll the small piece of stiff paper around the forefinger (it may be a little longer than the finger) tie with a piece of string.
b. With paper still around the finger, wad up some old paper about the size for the head.
c. Fold the head covering (paper preferably) over the wadded paper, bring around the paper which is around the finger and tie into place, making the face side as smooth as possible for painting face on.
d. Sew the cloth for dress up one side to form tube. Turn wrong side out, insert head into tube with ned to top of tube. Fold the cloth around the neck of the head and tie securely. Turn the tube other side out and so the head is exposed.

   e. Put hand into opened end of cloth tube (bottom of dress), insert face-finger into tube (neck of puppet) cut slits in dress at appropriate place for thumb and middle finger to come through and serve as hands for the puppet.
   f. Paint appropriate.
   g. Use puppet in story. Give expression of the operator.

30. Make a large model of tooth out of clay.

31. Give three uses for the teeth.

32. Have "hanky drill" from time to time to see how many hanky or something to represent hanky piece of clean cloth, etc.

33. Have demonstrations of how to use hanky properly.

34. Have children make rhymes and act them out as: "when we cover our cough with a hanky, all our friends will say thank you". "Turn your head away when you sneeze, and to your friends say excuse me please"

35. Make use to timely incidents for teaching. A child with cough may be urged to cover nose and mouth when coughing. Discuss with children why this is important to be done.

36. Demonstrate how to wash clothing (if practical). Discuss how soap removed dirt.

37. "Do not spit in public". Write a story about this health rule, giving reasons why we are not to spit in public.

38. Make rhymes about: "don't spit".

39. Give procedures for cleaning the nose: how, when, where.

40. Use local proverb "Use a washed cloth even if it is an old one".

41. Make list of things to do to keep eye healthy. See how many can be depicted in visual way: drawing, cartoon, model, drama, shadow play. (A shadow play may be shown by having actors, either actual children or puppets, back of a thin white cloth with light behind them in such a way that the shadow falls on the cloth and is seen by the audience.)

42. Select a number of situations: Ask individual children to give one - sentence suggestions for care of eyes in each situation.
    a. studying in school; b. playing a game on dusty ground; c. seeing a movie;
    d. reading in late afternoon; e. wiping the face.

43. Write "Yes" or "No".
    a. A stick is a good thing to use to clean ears.
    b. If you blow the nose too hard, you may cause an infection in the middle ear.
    c. Ear ache often occurs during or following such diseases as measles, scarlet fever.

44. Make a list of things to avoid with regard to ears and hearing.

45. Compile a list of words about personal health practices. Have different children to give the meaning. This may be a game with one group telling words, the other group giving the meaning.

II. ENVIRONMENTAL HYGIENE

1. Have discussions about safe water.
   a. How to know water is safe...or when dangerous.
   b. Visit a safe source of water supply.
   c. Visit an unprotected supply (source).

2. Have demonstrations of how to make water safe:
   a. boiling.
   b. using chemical (ask health inspector or doctor to give directions)
   c. Filtering (urban water supply systems).

3. See pond water through hand lens or microscope.

4. If health centre personnel or other officials treat the water in well near school, students may be taken by teacher to observe and to hear explanation by people doing the treating or explanation be given in teacher's guide.

5. Students may tell the story of how the well was treated and why. These may be told to parents when they go to their homes.

6. Find answers to the problem: why treat the water with bleaching powder? What preparation to use?

7. Explain and draw diagram (sketch) to show how feces may reach the water in pond, tank after rained. Make model of pond in school premises or on sand table to illustrate why defecation should not take place in certain directions from the tank or pond.

8. Find out what the village panchayat does to help keep the water supply safe for drinking. A committee may visit panchayat to ask this. A report may be made to the class as to what was learned.

9. Students may tell how they can help panchayat carry out their work.

10. Give step-bystep- description (and demonstration if practical) of how to wash eating and cooking utensils in sanitary manner.

11. If equipment is available have students to set up a "running water system out of the clay water pot using siphon principle (tap, pipe are needed).

12. The well or pump should be a reasonable distance (25 ft. minimum) from latrine or manure pits. Make a model in losse dirt to show how water can seep through the earth.

13. Locate the source of the water supply for the village. Tell how it is made safe. If not protected, learn why it may not be safe.

14. Have discussion and demonstration of how to use the water tap.

    a. for drinking by placing hand under the running water to guide into the mouth without touching hand or mouth to the end of tap (wash hand before using)
    b. How to keep tap clean. No touching, spitting, cleaning nose, etc.

15. List the benefits of a sanitary latrine, the benefit of urinals.

16. Make a model or give description of the type of sanitary latrine used in the village, at school, etc.

17. Write, or tell, an answer to this question: "using a latrine can help prevent diseases. But many people object to using them. Why do you think people object?

18. Have a model of a latrine (in wood, clay, cardboard) or a drawing (sketch). Give explanation of the essentials as to the prevention of a disease. Also make model of urinal.

19. Plan a story about latrine usage. Have one child or a small group, to write the story (very brief) and make the visual for the different points to be told. These may be put on flash cards and used to show and tell to other classes in the school or to parents.

    Flash Cards: A series of cards of size 8X10 (or larger depending upon distance from teacher to back of class). Each card has a visual (and may have some text) giving a point in the story. The person showing the cards, one at a time and in proper sequence, may tell the story of the picture or may expand upon the text which is on the cards.

20. When a sanitary latrine is being constructed in the village class discussion may be held at that time as to how it can help prevent disease if properly used. Perhaps one child or a small committee may be appointed to get information from those who are constructing or supervising the construction about how it is constructed, why it is in that location, and its benefits. A report may be given to the class.

21. Make survey of class members to find out how many have latrine in the house or compount.

22. Form committees to help keep the school latrine and urinal neat and tidy. Write story on "why we should use the urinal and not go here and there".

23. If the school has flush system and young children or older ones too enter the school from homes without this type of facility, should have teaching about how to use the flush system properly to keep in good working condition and to keep it neat and tidy. (Should we have a small guide on use, care, decoration of the different types of latrines".)

24. Write a story, give a drama or puppet play about "A dirty, unattractive, school which turned into a clean, beautiful school". Tell what students, teachers, parents did to help change it. Tell what can be done in our school to make it more like the school in the story.

25. Discussions, demonstrations and examples by teacher may give importance to dignity of labour -- giving recognition to those who "do something to keep the place neat and tidy.

26. Discuss about the compost pit and soak pit. Tell the benefits of each.

    a. Make visit to compost pit. Soak pit.
    b. Demonstrate, or see demonstration by proper village leader, how to put the waste into the pit and make compost.
    c. Write slogans about this in relation to "Health and Wealth".
        a. Our school is clean with help of the compost pit.
        b. We keep health when we keep clean.
        c. Manure is wealth when used in the kitchen garden.
        d. Cleanliness helps bring food."

27. "The habits of the housefly are interesting, but disgusting" Write a story to give more light on this topic.

28. Rats are in my village. Write a story telling:
    a. How many (few of many)
    b. Where do they live.
    c. How big (what size are they.
    d. How do they act.
    e. What do they eat.
    f. How much do they eat.
    g. How many people could live on that amount of food.
    h. How to rid the village of these rats.

29. Divide the class into small committees (every child on a committee) to keep different parts of the room and surroundings clean. Each committee may prepare a plan for work.

    a. What is to be done.
    b. How it is to be done.
    c. At what time (daily, time of day)
    d. Who will inspect the work.
    e. Which committee member will do what.

30. Have competition for cleanest classroom. Have list of things on which it will be judged. Make weekly award. Also have competition on "cleanest and most attractively decorated."

31. Each child write slogan, rhymes, songs about a clean and tidy place.

32. Make use of flower pots and other suitable plants to beautify school and surroundings, and to produce some useful plants (in vegetable garden) (fruit trees) (vegetables in pots which are both useful and decorative).

33. Make use of special occasions to improve the condition in the school environment.
    a. Good health week to show accomplishments and to take up some health activity.
    b. National Cleanliness Day on 2 October to have special cleaning of rooms and surroundings, white-washing and decorating.

c. Anti-fly week (1st week of July) campaign to get flybreeding places cleaned up.
d. Childrens' Day celebrations 14th November.

34. Observe the classroom. Tell how the arrangement helps to have good light for study. See if any improvements can be made to have better arrangement as not sitting in position so as to look directly into glare, etc.

35. If thermometer is available, have children read it and make record of readings at different times of day. Discuss reasons for any changes during the day.

36. Make list of insects which are helpful to you. Tell how each helps.
Make list of insects which are harmful. Tell in what way.
How to treat bee sting, bite by big ant.

37. Make list of ________used for medicines. Find out the use for each. Make an exhibit of as many of these as can be found.

38, Be a health detective. Make a list of all the things, with respect to the environment, which are done to keep the environment in good condition and to keep you healthy.
a. things done in home.
b. things done in school.
c. things done in village.

39. Divide the class into several small committees. Each committee may select a different health practice with respect to the environment, to give story. Each committee may present the story in different way, drama, puppet, story, shadow play, action song.

40. Write a wall newspaper about the environmental sanitation. It may be appropriate to emphasize different aspects according to seasons as "health precaution during monsoon, "things to do during loo," etc.

41. Give an answer to the following two problems:
a. How to encourage rats.
b. How to discourage rats.

42. Give reasons to the following questions:
a. why the fly is dangerous.
b. why the rat is dangerous.

43. Observe the preparation and cooking of the food in your home.
Make a list of all the things which are done during these processes to keep the food clean and sanitary.

III. CONTROL OF DISEASES

1. Refer to section on Environmental Hygiene for many suggestions which are important in controlling diseases also.

2. See film on "How Disease Travels" (secure films from State Health Education Bureau) Discuss what was seen and how it applies to lives of children in that school and village.

3. Puppet plays on prevention of some disease may be prepared by students and presented to other school classes or to parents.

4. Draw an outline of a human body. Indicate the places where germs (diseases) can enter the body.

5. Make a list of the things to do to keep germs from entering the body.

6. On an outline of the human body, indicate where germs get out or leave the body.

7. Make a list (ten or so) of great discoveries during past ten years which have had great influence on promotion of health and prevention of disease.

8. A list of health rules for the prevention of communicable diseases may be prepared by the teacher with the help of students. Each child may then tell a story about one rule, each child taking a different rule to tell why it is important, how to carry out, etc.

9. Plan and make a dictionary (word list) of words about prevention and control of diseases. The types of words used will depend upon the class level.

10. Have children make riddles about prevention and control of diseases. For example:

    "They are very, very small
    with you eyes you can't see them at all
    they can come into the body very quickly
    and make girls and boys very sick"
        What are they?

11. Make drama to show how to prevent germs from getting into the body.

12. Make a wall chart. When child is absent because of illness, record on the chart as to what was the cause of his illness. At the end of the month have a discussion as to how these illnesses may have been prevented. The health committee may have the responsibility for keeping the chart up-to-date.
13. Have children write poems and songs about ways to prevent diseases to stay well and strong. A competition may be held to see who can include the greatest number of health practices in his/her poem or song.

14. Give reasons why each of the following need good health and should be free from communicable diseases: student, mother, father, teacher, farmer, driver, doctor, weaver. (add others as appropriate).

15. School water supply should be a model of cleanliness. Have discussions as to how to keep it clean. Have demonstrations to show how to keep it clean.

16. The school latrine may be a model of cleanliness and of proper use. A committee may be assigned to see to the cleanliness.

17. Children may draw picture of school latrine and tell how it prevents spread of disease.

18. Make and act a drama "King of good health or Champion of good health" and "King of Ill Health" or "No Champion because of ill health". The King of good health (or champion of health) adopts the healthy habits like using latrine, washing hands. The "king of ill health" (No champion because of ill health) adopts existing bad habits of unsanitary practices like drinking from unsafe water supply and using flies as his agents.

19. Have discussion on "why well people whould stay away from sick people".

20. Field trips may be taken to health center and to nearest laboratory, if advisable, to learn what is being done to prevent and control diseases.

21. If a student becomes ill, have him to go home. If this is not suitable (because no one is at home), have him to sit apart from the others or remain outside the classroom to prevent others from "catching" his disease. However, he should not be exposed to severe hot, cold, wind, dust while sitting outside.

22. If you live in a one-room home and a person in the family comes down with a communicable disease, tell how is the best way or ways to keep him separated from the members of the family.

23. Visit a primary health centre if one is nearby or have one child tell about his visit to a health centre or clinic. Tell who works in a health centre (tell about one person if all cannot be remembered). Tell what each person does to help people stay well, or help us to get well if sick. Older students may give more details about work of the primary health center.

24. Children may draw sketch, or bring specimen house fly, and tell story of 'why he is dangerous to people'.

25. Have children collect fly larvae (maggots) from cow dung heap. Make exhibit or drawing of fly, eggs, larva, pupa. Have children see some of these under hand lens.

26. Have dialogue on fly, "Who am I".
27. Read a dialogue, "I am a fly".
28. Have story or dramatiziation to show how fly travels from "filth to food" showing that it is the same as eating filth.

29. A flash card story may be used to stimulate question and answers about habits of fly in relation to defecation habits of people.

30. Have demonstration of proper way to keep cut fruits and vegetables. They should not be cut until the person is ready to eat(buy) them. When cut and left exposed, fly sits on,dust settles on, hawker may "breath"on. If left uncut until ready for purchase and eating, these may be avoided. Any vegetables or fruits which are to be sold may be kept covered by hawker. Students may take tour through bazaar to see how many hawkers are keeping fruits and vegetables in proper way.

31. Collect mosquito larvae with ink filter in tumblers from stagnant water for observation and for discussion purposes.

32. "The female mosquito and malaria Disease". Make a story to explain the relationship.

33. Have a survey to find out when houses were sprayed with DDT (see date).

34. Have one or more children to tell how the house must be prepared for the spraying.

35. Have children tell what is the purpose of spraying (to rid the house of malaria mosquito) not of all mosquitoes. Why?

36. Make inspection to look for mosquito larvae near houses in broken pots (pieces of), stone grinding tools, or any other places where water is stagnated.

37. Give the ways that a soak pit can help prevent mosquito.

38. Have discussions or have children tell story or write story on dangers of smallpox and cholera.

39. Keep record of date of immunization (vaccination and inoculation)

40. Arrange for immunization to be done at school, if needed.

41. Teacher set the example by having vaccination first, before children.

42. Have class to make a class chart with name of each child, list of vaccinations and inoculations and date of each.

43. See that all children are immunized before entering school.

44. Pretend that you are going on a trip to a foreign country. Select the country and then find out the inoculations and other health measures required before a permit will be issued for you to enter the country.

45. Make a list of the vaccines manufactured in India. Tell the use of each. Tell how each is made and/or where made.

46. If it is possible, find out about some leaders in India who have done outstanding work in the control of communicable diseases.

47. "Vaccination is a Mystery" until you know the scientific facts.
    a. write a story about why it seems a mystery.
    b. write a story about the science of vaccination.

48. Have the health committee (or the teacher may) to prepare questions about vaccination and inoculation. Make a game by dividing the class into two teams. The teacher or a student leader may ask questions first to one tema then to next in order as team members are arranged in line. If first person on first team does not answer correctly, the question goes to the first person in team two. If he does not answer, it goes to second person in team one, etc. When the question is answered correctly, the team scores a point.

    Another method of scoring is to have each child to drop out of the team when he answers incorrectly. The person remaining for longest time is the winner.

49. Have local health expert of have students in science classes to demonstrate culture tube or petri dish culture of germs for children to see, discuss, write and tell what they saw.

50. Discuss with children about certain health practices and diseases as:

    a. contact with certain insects may cause child to catch certain diseases (what insects and what diseases).
    b/ Bad personal hygiene may help bring illness (what illness and how).
    c. Contact with sick people may cause child to catch that disease.how? They are to be told in a simple way.

51. Children may name and draw sketches of various worms which may be harmful to persons internally or externally. Tell in what way does each harm people. How can this be prevented.

52. Divide class members into small groups. Have each group take a different disease to prepare a drama, puppet story, shadow play, etc. to show that that they understand the disease, how caused and what to do to prevent it.

53. Make list of diseases which are known about in this community. Tell which part of the body is most affected by each disease.

54. Ask children to make a list of all the communicable (catching) diseases they know. Tell how each is communicated and how to prevent.

55. Make a story on "Harish the Hookworm?. Tell where he is born, how he gets into the human body, where he lives in the body, what he eats, and how to be rid of him, how the latrine can help.

56. What are germs? How would you amwer the question for a person who has never heard of germs before?

57. Explanation of what is meant by "communicable diseases".

58. Make a list of "signs of illness", how to tell when your brother or sister or your friends are not feeling well, or may be having a disease.

59. Students plan and give dramas to show "this, not this", the correct and incorrect things to do for the prevention of one or more communicable diseases.

IV. Food and Nutrition

1. Have discussions about growth and food we eat.

2. Encourage children to tell what food they eat to make them grow.

3. List foods which are found in children's lunch. Have them to list these. Discuss which foods help them to grow strong.

4. Have children tell foods they eat daily to help them grow strong.

5. Plan a puppet show about foods which help children grow.

6. Have children write story or tell why foods should be protected from flies, dust, etc.

7. Have a demonstration of covering food to protect it from flies.

8. May repeat the demonstration to show fly leg under lens to emphasise how fly can carry germs on legs.

9. Discuss how to store lunch box (tiffin) brought to school to keep protected. Have demonstration to show.

10. Have children to observe food hawkers to find out:
    a. How food is protected from flies & dust.
    b. Kinds of food being sold.
    c. If not, protected in what ways it is exposed.

    Discuss these in class.

11. Find out about the laws concerning adulteration of food. Tell why you think each was passed.

12. List ways food may be protected from fly, dust. Demonstrate.

13. Give reasons why we should not eat food after flies have been sitting on it.

14. Tell ways to have foods safe for eating as (wash before eating, cook and serve hot, take off peel, etc.

15. Tell what practices a person shouldfollow to handle food in sanitary manner; as wash hands before handling, etc.

16. If mid-day meal or canteen service is provided at the school, plan some discussions in connection with this activity.

17. Children may practice selecting a "balanced diet" or "nutritious meal". This may be done by using:
    a. actual foods (samples of food in raw stage may be used).
    b. Clay models, or models from other material.
    c. Pictures of foods.
    d. Names of foods.

18. Have each child keep record of the lunch and amounts of food he eats for one entire day. Calculate (approximate the nutrients (calories, vitamins, protein, etc.) which this food contains. Compare with a recommended standard.

19. Have a game to learn approximate amount of calories in various foods and amounts of foods, as ½ cup cooked, polished rice, ½ cup "whole rice, 1 small spoon mustard oil, 1 medium potato (a table of food values will be needed for reference. One may be in school library or bulletin, 23 D.G.H.S. may be secured.)

20. Think up games to play using names of fruits and vegetables as "turn over the fruit basket?. Each child takes name of fruit or vegetable. Children sit or stand in circle. In child is "It" and stands in center. "It" calls names of two fruits or vegetables. Children with those names exchange places in the circle. "It" tries to get into one of their places ahead of the one going to it. If successful, the child left out becomes "It". "It" may say "turn over the fruit basket" when everyone changes place. The game may be limited to fruits and vegetables high in "protective nutrients".

21. One exhibit of foods may be arranged as to
    a. foods good for body building,
    b. foods high in protective values against infectionand diseases.
    c. foods high in energy values.

22. In your study of plants, in science, tell which part of the plant is good for food.

23. Make a class chart to show the kind of mile each child drinks: cow, buffalo, goat, made from milk powder.

24. Write a story about "Milk is a Good Food to make boys/girls grow".

25. In schools where children bring lunch, each child may make a list of all ingredients in foods in his lunch. Discuss where each ingredient came from: (plant, animal, out of the garden, other state in India, etc.)

26. Make a list of plants (small plants, trees, vines, etc.) which provide food. Make a collection of foods from these and prepare an exhibit.

27. Make list, collection, and/or exhibit of the following foods:
    a. High in Vitamin A
    b. High in Vitamin B.
    c. High in Vitamin C
    d. High in Protein value
    e. High in Caloria value
    f. High in Vitamin D.

28. List some minerals needed by the body. See how many foods you can find which contain significant amounts of these minerals.

29. Make clay models of foods. Each child may choose some favorite to model.

30. Where local foods of high nutritious value are available but are not being eaten, arrange to have several children to bring a small quantity to school (if it can be brought in its present form). Have discussions about the food. If practical, have children to taste it (unless there are strong religious reasons against it.

31. Make picture books, posters, booklet, chart or movie roll about foods which make us grow and go. To make a movie roll each individual child may make a picture and story for one scene, using paper or cloth about 12" to 14" in size. These individual scenes may be put together pasted, stapled, sewed) with the top of scene one to scene two, etc. The movie box is made by using an empty cardboard box of 14" to 18" or so. Holes are made near the top and bottom of the open side, round bamboo, reed, etc. may be inserted through the holes to extend on both sides.

The beginning of the story (the bottom of scene one) may be fastened to the found stick in bottom of the box. The end of the story (top of the last scene may be fastened to the round stick at top of opening of the box. Child turns bottom stick to move the scenes. Same child may tell the story or another child may tell the story. When the story comes to the end the upper stick may be turned and the story rolled back to ready for the next showing. Box may be placedon table, chari, stool or on any object so as to be easily seen by those in audience.

32. Each child may write a story about "balanced diet" and what it means in terms of the foods he eats.

33. Make display of foods according to colors of our national flag. Explain how this is a good plan to help "balance the diet".

34. Make a season chart - summer, winter, dry season, etc. List in proper place the vegetables and fruits more abundant during each season.

35. Build a class food shop using empty tins and boxes. Label and put price on each (children may find out actual prices from bazaar). Dramatize, healthful food shopping.

36. Make a "Good Health Train". Carriages may be made of clay, or other material or they may be sketched on paper. Label carriages as "foods to make us grow" "Good manners in eating", "Clean habits for food handling" and others suitable. Fill carriages with appropriate names, models or real objects.

37. Children should share what they learn at school, with the family at home. Teacher and students may plan ways to do this.

38. School may invite parents to see food exhibits whenever they are prepared. Children may explain to parents about the exhibit and about different things in the exhibit.

39. Each child may make a list of all fruits and vegetables grown in gardens at his/her home. These lists may be put together a book called "Vegetables and Fruits in our Garden". Students not having a garden may visit the bazaar to see how many fruits and vegetables are there.

40. Each child may make a story about how he helps to make a good garden at his home. If he has no garden, he may write about his plan to make a garden or grow some plants in a pot.

41. Plant a school garden. Carry out many activities in connection with: a. planning, b. preparing the soil, c. selecting seed or seedlings, d. putting in plant food, e. planting seed or setting seedlings, f. giving water, g. cultivating, h. protecting (from animals, insects, etc.) i. harvesting, j. using products for food.

42. Make a list of the main food crops grown in your State. Draw map of your State and put in appropriate symbol at location where each crop is in most abundance.

43. Make a drama bout different foods. Each child may select a different food and indicate how it helped him to grow (use foods familiar in the village.)

44. Have demonstrations on simple cooking. If not practical, have discussions.

45. Make drama about "keep the vitamins" and not drain them away after cooking.

46. Give a step by step direction for making chapati including washing of hands before beginning. Tell the different ingredients used in the chapati.

47. Tell how you learned to eat a new food or to eat food prepared in a different way.

48. Make a "food fair" or food mela" to show all the different kinds of vegetables grown in the village. Notices about the fair or mela may be cut in shapes of familiar vegetables and information written on them.

49. Write puzzles about foods, each student may write a puzzle about a different food. These may be put together in "our class puzzle book about foods".

50. Tell how you help mother (or other person in the family) prepare for the evening meal or clear up after the meal.

51. How would you answer this question, "Does it really matter what we eat every day"?

52. How would you go about finding the answer to the question in No. 51? One class in school intimated that they would: a. ask a doctor or nurse, b. read books to find out. c. may we do some experiments.

53. In how m any different ways milk is served: for example, curd.

54. Write a story about the food I like best of all.

55. How would you explain this statement: "The most expensive diet is not always the best diet".

V. Health Condition in Village, Town, Country

1. Have discussion about health conditions in the village.

2. Visit local health centre to learn about the work there.

3. Have role playing to help understand the work of public health personnel. A child may "play" the part (role) of a health worker to show and tell what each person does to help people have better health.

4. Children may tell about the different people in the village who do things to help them stay well and free from disease. Tell what each does.

5. Class, or a small committee, may make a map of the village. Indicate on the map, using suitable symbol, the following:

   a. the well or wells.
   b. public latrines and urinals.
   c. latrines in houses or compounds or houses
   d. their homes
   e. manure and compost pit.
   f. the school
   g. health centre
   h. Panchayat.

6. Make list of things which students can do to help keep village clean. Each student may tell what he can do.

7. Find out if there is a village health committee. If so, what things does the committee do for the health of the people.

8. Make a list of the health workers who live in the village. Make a list of health workers who come to the village (as sanitary inspector, doctor, etc.

9. Make a model of a good village. Have different children to explain the different facilities in that model which make it a healthy place to live. Invite parents to see and hear. Also invite other classes in the school.

10. Make a model of a primary health center. Write and/or explain the various services from the health centre.

11. Find outabout the laws and regulation in your state which are for protecting the health of the people.

12. List the things done by panchayats to help protect and improve the health of the community.

13. Make a drama to tell about the work of the people in the village who help to keep the village clean.

14. Write a wall newspaper about the drinking water supply in your village; how it is protected, what needs to be done to keep it clean,etc.

15. Make a model of a sanitary well, and a model of an unprotected well. Tell important points about each model.

16. Tell what is meant by "safe water" for drinking. What is meant by contaminated water. Show on a model or chart.

17. Tell how to make water safe for drinking.

18. List all activities which take place near the well. Students may indicate which ones (if any) should not take place near the well. Tell reason why.

19. Use notice board (bulletin board) to display information about health and illness in village.

20. Students may locate places in village where flies are breeding. Tell what needs to be done to improve these places so that flies may not breed. Who can do it? Can students help?

21. Give answer to the question. "Where do mosquitoes breed and live?

22. Tell, indicate by drawings, and/or make models of clay to show the life cycle of mosquito, housefly, etc. Tell the health implications for knowing the life cycle of each.

23. Make a model of the type of sanitary latrine used in your community. Explain how it helps present disease.

24. Give answers to this problem, keeping in mind that diseases can be spread through feces. if there is no latrine, how can you dispose of human feces so as to protect others. If there is no latrine at the school decide where and how to dispose of feces.

25. "Our School has no latrine." How can we get one?

26. "Why do people like to visit a clean, attractive village?" Students may write, or tell, stories about this subject.

27. Do you agree with this statement, "the greatest health resource in any community is its people doing things themselves to have better health.

28. How would you explain this statement? "Health workers and health facilities alone cannot keep you in good health. You and everyone else must practice health habits.?

29. Find out if your community has any special health problem as, lack of water supply, too many fly-breeding places, many people having trachoma, etc. Tell what school children can to to help solve thehealth problems in your village.
30. Tell why "air pollution" is a health problem in some communities.
31. List different ways the air may become polluted.

VI. GROWTH

1. Discussion about body growth.

2. Each child may be encouraged to tell how much he has grown since last year. They may give proof of growth by telling gain in weight and height, losing growing teeth, skill gained in playing games, clothing has become too small, etc.

3. Children may be encouraged to tell things they have done to promote growth.

4. Using string or tapemeasure if available measure the following:
   a. around head just below the eyes.
   b. around the chest near the nipples.
   c. around the waist.
   of a baby, a two year old, a six year old, yourself (age), a 12-yr. old.

   Record the measurements.

   Decide whether head or body grows more rapidly, and at which ages. Work out the percentage gain in head and in body growth.

5. Measure height at beginning of the schooland again at about the middle of the term to determine the growth in height. Take weight if a weighing machine is available.

6. Tell how cells get food to grow on.

7. Make a list of diseases which may attack a boy or girl during the growing years. Tell what can be done to prevent each of these diseases. Evaluate your health practices to see how you score toward preventing them.

8. Make a chart of the digestive system with appropriate explanation as to how it works to keep the body in good health and promote growth.

9. Make a chart showing the pathway of the blood through the body, using red to show blood carrying oxygen and blue to show blood carrying carbon dioxide.

10. Make a diagram to show the path air travels during breathing.

11. Class may be divided into groups. Each group may take one system of the body, as digestive, respiratory, circulatory, etc. List all the organs in the system. Make a diagram chart to show the system. Tell the functions of the system. Tell what is needed to keep it healthy and functioning. Tell what diseases are likely to attack the system or some organ in the system.

12. Play different kinds of games. Try to locate the muscles which were most active in each game.

13. Each child may tell how many new (permanent) teeth he has already grown. He may also review what he is doing to keep his new teeth in good condition.

14. For younger children, name the parts of the body which can be seen (not the internal organs).

15. Each child may tell or write a story about why he likes to have a birthday.

16. List three things good teeth can do for you.

17. List ways aching teeth may cause you trouble.

18. Tell the number of teeth in the first or temporary set. Tell the number expected in the permanent set.

19. Make a sketch of the temporary teeth and then place in proper position, the first permanent teeth which will appear.

20. Make a list of things to do to have good teeth or to care for the teeth properly. Let a class member pantomine these for the class members to guess what is being portrayed.

21. Construct a set of teeth out of clay (temporary, permanent, or your own at present).

22. Make a mould of the hand in clay atbeginning of school term. Keep to the end. Make another at end of school term to compare growth.

23. Name 3 important things children need to help them grow.

24. Give checks test on growth - (fill in blank with appropriate answers).

    1. The percentage of growth is fastest at what age?
    2. Each boy/girl has his own way of growing (yes, no).
    3. Each child has ~~how many~~ temporary teeth.
    4. ______________________things aregood for cleaning teeth.
    5. Give three ways a person may grow

25. Make a game of naming the parts of the body.

VII. Rest, Sleep, Exercise, Posture

1. Discuss with children some reasons for having sleep (to feel good, to grow, to be able to do school work better, to win in playing games, etc.).

2. Provide for varying kinds of activities including time for relaxing.

3. Plan and conduct a physical education program suitable for children in that school: fames, drills, sports, rhythms (see program of physical training laid out by the Ministry of Education).

4. Have posture training: activities to encourage children to sit correctly for comfort and for health of body.

5. Provide time in school day for outdoor play.

6. Discuss the safe places to play near the school and the village. Have children give reasons why certain places are not safe.

7. Demonstrate good sitting posture, good standing posture, and good walking posture.

8. Tell why each thinks fresh air is needed for sleeping, for exercising.

9. Children may make speeches in their Parliament about rest and exercise.

10. Keep record of the number of hours of sleep student has each night for a week. Make a graph to show what percentage of the day he/she spends in sleep.

11. Make a list of "quiet type" games. Have different members of the class to direct (be leader of) one game.

12. Make pantomine of "postures".

13. Write an explanation about the importance of proper practice for several days prior to entering strenuous games competition.

14. Collect pictures or make sketches to show which exercises may contribute to good posture.

15. Select some suitable story to read to the class during a "rest" period or child may tell a story.

16. Have activity of:
    a. One child demonstrate poor standing posture. Children tell how to improve it.
    b. One child demonstrate poor sitting posture. Have children tell how to correct it.
    c. A third child demonstrate poor walking posture, including toes pointing in or toes pointing out to the extrme. Class give directions for improvement.

17. Have class to "sit tall", stand tall"

VIII. CARING FOR ANIMALS

1. Give name of animals helpful to people. Tell how each is helpful.

2. List of names of animals which are harmful, and tell in what ways they are harmful.

3. Compare needs of animals to need of man.

4. Describe how the place where animals stay may be keptclean.

5. Have each child tell about the animals belonging to his/her family. How is each cared for? How is their living place kept clean?

6. Make list of diseases which can be transmitted from animals to men. How may each be prevented.

7. Make a story about why animals should be keptin safe places.

8. How can diseases in animals be prevented?

9. Name foods which come from animals, birds, fish, chicken insects, etc.

10. Tell whey the domestic animals need to be kept in a safe place.

11. Tell a story about an animal which got sick, and what was done for the animal.

12. Discuss and make chart to show how some diseases may pass from animal to man. What are these diseases? How do they pass?

13. Make list of:
a. Things to do b. Things not to do, to keep diseases from passing from animals to man.

14. Tell how animals have an important part in production of certain vaccines.

15. Tell the story of "cow and the discovery of smallpox vacinnation."

16. "Animals destroy food crops". How does this affect the health of people?.

IX. Safety, First Aid, Home Nursing

1. Explain safe route to school.

2. Have each child tell his route to school.

3. Discuss safe ways to play certain games.

4. Explain hazards of unsafe activity (games).

5. Have children make list (with the help of the teacher) things to do in case accidents do occur. Also some things not to do.

6. Make list of "rules of the road", set up a "make believe" stop-and-go signal and have children to practice crossing the road at the proper time.

7. Make an exhibit of the "safe way to do things" - drawings, models, etc.

8. Discuss safety practices during monthly meeting of the Red Cross Organization.

9. Havedemonstration of procedures for first aid to certain injuries and in certain emergencies.

10. Have demonstrations of what to do if clothing catches fire. Have children explain why this may be done.

11. Make a list of things "not to be done to injured person."

12. "Improvised bandages and treatment". If Red Cross book specifies a certain bandage, cleaning agent or medicine and these are not available where injury

occurs. Make a list of what to use in place of: a. bandage, b. cleaning agent, c. medicine.

13. Conduct survey of school to see: a. good safety practices, b. safety hazards.

    Suggest ways to improve the safety hazards and correct them if possible.

14. Observe students in other classes at school coming to and going from school to see good safety practices and poor safety practices. Make a wall chart of these.

15. Keep a record of all accidents which happen to students in the class or school during a month. Find out the cause of the accident. What part of the body was hurt. Discuss how it could have been prevented. Post in wall board for school to see.

16. (1) Survey the home:

    a. to see if toys or other things are scattered about and are causing safety hazards.

    b. to determine if there are safety hazards in electric wiring,use of electrical appliances, etc.

    c. to list safety hazards in kitchen.

    d. to see if harmful liquids (kerosene) and medicines are out of reach of young children.

    (2) Suggest ways the conditions may be improved.

17. Make a class list of the proper way to use electrical appliances, including the wiring for these.

18. Make list of toys suitable for small children. Tell why they are suitable for small children. Make exhibit of toys, drawings of toys, or models (in clay).

19. Make list of toys not suitable for small children and tell why each is not suitable.

20. Assemble the minimum essential items for a first aid kit. Make display with explanation as to the use of each item in the kit.

21. Write a list of safety procedures to be followed in games. The class may be divided into groups with each group giving the safety procedures for a different game.

22. Make a map of the school district, village or community whichever is practical. Hang on the wall. Each time an accident occurs, put a colored dot on the map at the location where it occurred.

23. If a daily paper is available to any members of the class, a record may be made of the accidents reported in the paper over a given period (one month, two months, etc.) Tell how each may have been prevented.

24. Make a list of:

    a. Rules to be followed by cycle rider.
    b. Rules to be followed by persons walking on road or lane where cycles are passing.

25. Demonstrate proper signals for cycle riders.

26. Demonstrate how to handle and use knife in safe manner. How to handle and use scissors in same manner.

27. Tell the advantages of forming lines (one behind the other). Practice forming line at school when several students are going for the same thing.

X. FAMILY LIFE EDUCATION INCLUDING SEX EDUCATION.

1. Discuss advantages of living in a family.

2. Tell what each member "of my family does to make a good home for me".

3. What "I do in my house to help the family".

4. How many brothers I have?

5. How many sisters I have?

6. Tell advantages of ((a) Being the eldest child (b) Being the youngest child (c) Being in between the eldest and youngest.

7. Make a list of good manners practiced in my community toward girls of my age, toward ladies elder to me (for boy). Have demonstration (role playing)to show some of these.

8. Make a list of good manner practices in my community toward boys of my same age, men older than myself (for girls). Show some of these by role playing demonstration, drama or other means.

9. Make a list of "customs in my family" which show respect for others.

10. Role of father in the family. Write a story, discuss, dramatize, etc. Do the same for role of mother.

11. Write a story about "my appreciation for my family and home".

12. Write a story of how one plant comes from another. The class may be divided into groups. Each group may be given a different plant to tell how new plants come from that plant. Plants may be grown at school.

13. How new animals (including birds, insects, reptiles, etc.) come from other animals. *Children may tell* the names of the young baby of several animals. How do parent animals help the baby animals.

14. Young children may make a drama or "play at" being parents and children in the family.

15. Our family tree.
    a. Each student may construct his own family tree.
    b. Student may write story on how the family tree grows from generation to generation.

16. Responsibilities of heads (father, mother) of families for:

    a. Food and clothing for children.
    b. Shelter (house)
    c. Education
    d. Medical care
    e. Ohters.

17. Children may find out what is the cost for the family for a month:

    a. for food, b. for rent (housing), c. for medical care

18. Things to know when growing up as a boy or girl. (this may be developed in accordance with the particular situation as to how much about reproduction is to be taught in the school).

19. Tell about some interesting things you did with your family (played game, went on picnic, visited the temple, etc.

20. "The more children in the family, the more is required for food and clothing". Tell how this is a fact?

21. Make a record, or tell about the special interests of some members of your family.

22. If you are in the age group from about 11 to 14, you may notice how rapidly some of your classmates of friends are growing in height. Have you noticed any differences between height of boys and girls of the same age? which is taller?

23. Tell the kind of work your father does, and why this is important work.

24. Tell the things your mother does. Tell why these are important.

25. In our village girls and women do the following kinds of work outside the home.List.

26. Write a story about "growing up as a girl" (for girls).
27. Write a story about "growing up as a boy"(for boys).

28. List games girls like to play. List games boys like to play. List some games boys and girls like to play together.

29. Write a story about a "fine lady". Give reasons why you think she is a fine lady.

30. Write a story about a "fine gentleman". What are the things which make him a fine gentleman.

XI. MENTAL HEALTH

1. Discuss what is meant by mental health.

2. List ways a student may be helpful to others: at home, at school, in the villages, to the neighborhood.

3. Make a drama showing "consideration for others".

4. Have each student to write about this topic - "politeness".

5. Write a story about a greedy person. Read the story to the class. (teacher may review the stories and select some for reading to class). Talk about how class members may guard against greediness. Also class members may list some evidences of greediness they see among people they know. Can student list some of his own greedy actions?

6. How would you answer the question: Why is it important to show consideration for others?
7. Write a story about "My Personality".

8. "Understanding Myself", what does this mean?

9. Do you think it is possible to get good marks in school and yet not get a good education? Yes? No? If answer is yes, how do you explain?

10. List the kinds of ways people react to criticism.

11. What do you understand as conscience? How can conscience help us?

12. You expect certain things from your parents. What can your parents expect from you?

13. You may have a certain attitude toward foreigners. If you went to another country, would you be a foreigner?

14. Write a story on, "what it means to be a good neighbor".

15. Can you give answers to these questions:
    a. "How do people feel when they get pass marks?"
    b. "How do people feel when they fail to pass the examination?"

16. Which person would you choose for your friend?

    a. One who is kind, considerate, and helps his family, friends, and other people. OR

    b. One who is greedy, keeps everything to himself, speaks in harsh voice to all people?

    Tell why you made the choice you did.

17. Have you ever heard one of your friends say to another, "You are just mean"? What caused such a statement to be made?

18. "You should learn from your mistakes." What do you think this means?

19. How does it feel to be "left out of the game?" What can you do to see that no one is left out?

20. If you had a choice, what hobby would you take up?

21. Tell a story about "Being a good sport".

    a. in a game (list other situations).
    b. in the classroom
    c. at home.

22. Write or tell or dramatize a story about a person who took a stand for what was right regardless of what the others did.

23. "From immaturity to maturity". What does this mean to you?

24. Do you ever wonder why you act as you do? Do you wonder why your friends act as they do sometimes?

25. Have you ever tried to make a list of things about your own personality. Would you like to try now and what kinds of things would you list?

26. Make a list of the ways people react to disappointments. Which ways do you think are more acceptable in your family, among your classmates, with your friends?

27. Suppose your parents, your teachers, your boss in your job told you only of your faults. Do you think it would help you to do better, or would it only discourage you more?

28. What are the things you do which make your parents happy.

29. Do you think your parents sometimes worry about you? What do you think makes them worry?

30. Do you worry about anything? If you are worried, with whom do you talk?

31. Discuss what is meant by mental illness.

32. Do you know how your community (State, etc.) looks after the people who are mentally ill?

33. Name some kinds of workers who help people have better mental health and help to cure the mentally ill (psychiatrist, psychologist, etc.)

34. What would you write in answer to this question. "What is a good home?"

35. Bring to class a story you have found in a book or heard from a friend to illustrate kindness to others.

36. Why do you think that playing football can help you in removing your "strong feelings inside you"?

37. You may have heard the saying "It takes all kinds of people to make the world". What do you think this means?

38. Keep a record for a week of all the things you did to help others.

39. List reasons why you think it is important to get along with others as:

a. individuals, b. families, c. communities, d. nations.

40. Do you think some boys (or girls) worry about the changes in their body growth and functions (fast growth, voice change, menstruation, etc.) What do you think causes them to worry?

41. List the kinds of creative activities you and your friends like to do (draw, paint, make drama, make puppet story, write story, etc.).

42. Make a chart to show how you used your time during one day, one week, etc. Can you budget your own time or does some person have to tell you what to do when?

43. Make a list of the different kinds of problems, (difficulties faced) a person faces in growing up.

XII HEALTH ORGANIZATION

1. Name school health council or other student health organization in the school.

2. Have Health Minister and helpers to look after health work.

3. Student committee may write the weekly plans for the health work (in Plan Book)

4. Have children's Parliament to look after the cleanliness of the school building.

5. Social Service Squad may be organized to look after surroundings, to remove dirt. If beyond their approach, they will seek out the street sweeper.

6. Health committee of Junior Red Cross may survey building for cleanliness.

7. Make list of : a. things to do and how to act as member of a committee or club; b. things to do as head of the committee.

8. Make list of things every student may do to keep the classroom and school surroundings in good condition.

9. Write stories about the health committee's work in school and why it is important (civic duty).

10. Tell some ways people work together to have better health conditions. Why is it important to work together?

11. Give names of organizations in the village and tell the important work of each.

12. Teachers may take leadership to form a parent-teacher organization.

13. If there is a science club in the school, some health projects may be taken in the club work.

14. If there is to be a Science Fair, some exhibits of projects on health may be prepared.

15. Form "Clean up Teams". Select team leaders. Divide the compound into sections. Each team "clean-up" the section assigned to it. Make a competition to:

    a. See which team gets the largest heap of trash.
    b. See which team has the "cleanest" place after cleaning.

16. Learn about Government Organizations and Agencies which work for the health of the people in this village.

DRAFT SYLLABUS FOR HEALTH EDUCATION FOR AGES 6-11

	THINGS FOR THE CHILD TO KNOW (Health Knowledge)	THINGS FOR THE CHILD TO DO (Health Habits and Practices)
I.	PERSONAL HYGIENE	
	Child should know	Child
1.	that cleanliness of persons and clothing is desirable for appearance, good feeling, health promotion.	1. Learns to appreciate clean feeling and clean looks.
2.	that hands are to be washed after toilet use and before handling food.	2. Washes hands after toilet use, before handling food, etc.
3.	a. that cleanliness helps protect against disease and makes child more attractive.	3. a. Washes hands when they are dirty looking to prevent soiling books, clothing, etc.
	b. that clothes need to be washed daily to keep clean and attractive. If daily washing is not possible, they may be: (1) sunned and brushed. (2) clothes worn neat to the skin (under clothes) washed. (wash in evening, wear next day is best where there is only one set of clothing). May wear some old clothing during the night.	b. Takes bath daily or as often as possible to be attractive to others and to have good feeling of freshness. Has clean clothes daily, if practical.
	c. that we must bathe.	
4.	a. To clean teeth on both sides.	4. a. cleans teeth every morning and immediately after eating food, if possible, to take away food particles, to prevent decay and to make teeth attractive.
	b. to use clean water to clean teeth.	b. Uses clean water for cleaning teeth.
	c. to clean teeth, he may: (1) wash his mouth (2) use twig from tree as: Neem twigs, Banyon twigs, Soft twig, Kiker twig, datan	c. Uses own finger (when clean) appropriate tree twig or brush.

	d. that he should not use pin or other hard substance for cleaning teeth as that might injure or harm the gums.		d. Does not use pin, or earth, or gritty powder.
	e. That tooth powder, paste or other material may be used to assist in cleaning teeth.		e. May make own tooth powder as desired using salt and charred paddy husks, or some other suitable ingredients. A prepared tooth powder may be purchased, if desired.
5.	To turn head away and cover mouth and nose when coughing or sneezing.	5.	Covers coughs and sneezes to protect others using one of the following ways or combination of them: a. using handkerchief. b. using clean cloth. c. with head bent forward. d. Turn face away from other person and cover mouth and nose with hands held together and in front of face and nose.
6.	a.(1) That spitting is a dirty habit (2) that cultured and educated people do not spit in improper places. b.that spitting can help spread disease. c.where to spit in case it seems necessary.	6.	a. Does not spit..as a general habit. If necessary to spit, then spits, only in safe places as suggested here: (1) spittoons provided for the purpose. (2) In sigree (angiticontaining red hot coals. (3) In dust bins. (4) Use cloth or paper which can be disposed of. (5) Special containers with disinfectant or dust at bottom, etc. (6) In handkerchief to be washed.
7.	How to care for own clothing in ways appropriate to his age.	7.	Helps to take care of own clothing and keeps it clean.
8.	Which are the appropriate places for bathing in his community or home.	8.	Bathes in those places designated as appropriate in order to protect the water supply, etc.

9. that eyes, ears, nose, mouth needs special care and protection.	9. a. keeps 'dirty' fingers and all objects out of mouth, ears, eyes, etc. b. seeks medical services if anything is wrong.
10. that nails should be trimmed and kept clean.	10. keeps nails trimmed short and keeps them clean.
11. that hair should be clean and free from dirty and disease.	11. Washes hair as needed. Combs hair daily.
12. that footwear provides some protection against injury and diseases	12. Wears shoes in order to protect his feet in best way.
13. that protection is needed against heat, cold, rain, etc.	13. Takes care of himself in cold, rainy or hot weather according to knowledge and with resources available to him.

II. ENVIRONMENTAL HYGIENE (Healthful School Living)

Child should know	Child
1. a. that safe water is needed.	1. a. Drinks only safe water.
b. How to keep water clean and safe for drinking. (1) Protect the source: .no washing of utensils or clothing in drinking water source. .no bathing in drinking water sources. .no ablutions. .not to obey call of nature near water supply. (2) Keep water in pots and covered .Keep covered .Replace lid after use .Use ladle or cup with long handle to take water from pot or ghurrah .Keep hand out of water in pot. .When a cup has been used by a person, do not put into pot again until it has been cleaned. (3) Use boiled water. (4) Treat water by: .Using bleaching powder or other suitable chemical. .Filtering.	b. Helps to keep drinking water clean and safe.

c. That water in well can be treated to kill (or take away) the germs which cause illness. The Panchayat, the health officials, or some other qualified person may do this: Bleaching powder or other suitable disinfectant may be used.	c. Assists in purifying water in accordance with age, if directed by elders.
d. Protected wells keep water safe for drinking.	d. Helps to keep the well protected. (1) no bathing or washing in or near it. (2) no latrines usage near the well. (3) stores water in safe manner to keep it safe for drinking.
e. If water is not protected or treated, it may be boiled before taking.	e. Assists in boiling water, as needed, in accordance with directions from elders.
2. a. that sanitary latrines and urinals or other similar facility for depositing body wastes are essential to good health.	2. a. Uses latrines and urinals as directed by teacher, parents or other leaders. b. Helps to keep latrines clean and in attractive condition. c. Uses proper latrines for defecation. Do not use fields, streets, ponds of streams. When there is no latrine available to the child at time of need, he may be instructed as follows: (1) Defecate in pits: a. dig trench b. use an out-of-the way place c. Carry a "Khurpi" to fields to dig a trench d. cover night soil with earth. (2) Do not defecate: a. On banks of river or stream b. In rivers or streams c. Near tank or other water supply d. In streets, roads, or lanes e. Near inhabited places as playgrounds, etc.
3. a. that home, streets, play area, school should be clean to be safer, more beautiful and help to keep child healthy.	3. a. Puts trash in dust bin, pit or other appropriate place.

b. that dust blowing into the classroom may cause discomfort by irritation of eyes, throat.	b. Helps clean up trash which has been around thrown by thoughtless people, etc.
c. dust should be removed daily for cleanliness and health	c. Helps to keep 'cleaning' implements (apparatus) handy: broomsticks, baskets, buckets, longstick with palm leaves for cleaning cobwebs, etc. (cleaning apparatus may vary from one locality to another).
d. that each person should do his part to keep surroundings clean.	d. Serves in housekeeping committee or clean-up committee to help keep building and grounds clean. Sweeps and dusts classroom daily to keep it clean and tidy. Takes part in decorating. Sprinkles water as needed to keep down dust before sweeping and at other times.
e. that the cleaning work may be more effective when responsibilities are planned.	e. One group may sweep path to school, another group picks up paper bits, leaves, etc. Girls decorate front of school with 'kolam' design drawing with white powder)or other appropriate decoration.
f. that hands, face, feet need cleaning after doing cleaning work.	f. wash hands, face, feet, after doing cleaning work: (1) At least wash hands. Do not accept food or drink until it is done. (2) Provide water, give instruction. (3) Water can be stored for this purpose. (4) If no water at school, children may be taken to well or river. (5) Stress washing immediately upon arrival at home.
4. that proper ventilation and lighting are needed in his school, home or other places for work, play, living, etc.	4. Makes use of light and ventilation facilities available to him.

III. CONTROL OF DISEASES

Child should know:	Child:
1. that safe water can help keep him free from certain diseases (see section on environmental hygiene for additional suggestions).	1. a. Drinks only safe water. (tube well, boiled, filtered, treated, etc.)
b. that water must be kept clean	b. Helps to protect the water supply by: keeping dirt and rubbish out of drinking water, bringing water for drinking and stores it in a safe way in a safe place.
2. that sanitary latrine is important	2. a. Uses sanitary latrine. b. Helps to keep the latrine clean and attractive.
3. a. that diseases are caused by germs. These germs can be spread by discharges from the sick person to a well person through water, food, air, by flies, mosquitoes, rats, dogs, etc.	3. a. Learns, according to age of understanding, how certain diseases are caused. He does those things he knows which will help to prevent the diseases to himself or to others.
b. that flies can carry filth (with germs in it) to food. Children have seen flies on food and also seen flies on filth (feces). Food should be covered to protect it from flies.	b. Stores food where flies cannot get to it.
c. that flies breed in uncovered cattle dung heaps and other such places.	c. Helps collect dung, put into compost pit, cover with earth, etc.
4. a. that the mosquito carries the malaria or rilaria parasite (germ) from the sick person to the well person.	4. a. Protects himself from mosquitoes.
b. that mosquitoes live and breed in water.	b. helps to make a once-a-week check at least about the compound or village to find and prevent mosquito breeding places.
	c. Avoids contact with any of the other disease carriers.
5. that certain diseases can be prevented by immunizations: Smallpox, diptheria, cholera, TB, etc.	5. Gets immunizations as advised. Learns about immunizations availabl from the local health services.

that general cause of illness are: infection (germs); excessive exposure to heat, cold, etc.; indiscretion in eating and drinking; lack of certain essential food elements; uncleanliness (unclean habits).	6. Assists in the conducting of National Health Schemes: Smallpox eradication as guided by teachers and parents and others as appropriate.
7. The elementary facts about certain diseases prevailing in the area: malaria, TB, leprosy, smallpox, diptheria, whooping cough, influenza, cholera, typhoid, dysenteries, diarrhea, hookworm, roundworm.	7. Learns some information about common diseases in accordance with age and other conditions: a. at age six stress general habits to promote health and prevent disease. b. by 11 years may know more about cause, transmission, and some specific ways to prevent the disease.

IV. FOOD AND NUTRITION

Child should know:	Child:
1. That food makes him grow	1. Eats foods available to him (provided by parents, teachers, etc.) which he has learned will help him grow and be healthy.
a. that food should be clean and free from germs. b. that flies can cause food to be unsafe for eating. Flies bring germs from sick man's discharges (feces, spit) to food of well person. c. that food should be covered to protect it against flies. d. that the child should wash hands before handling food and after using toilet. e. that food hawkers do not always keep food clean and safe from germs.	2. a. Helps to keep food clean. b. covers food to keep flies away. c. Covers mid-day meal at school. d. handles food with clean hands. e. does not buy food from hawkers as that food is not always properly protected against dirt, flies. Also that some hawkers do not practice good personal hygiene. Child develops the practice of buying from authorized food sellers. Requests that any food sold to him be properly wrapped.
3. that the body needs a variety of foods (nutrients).	3. Learns to eat many different kinds of food if available.

4. which foods (produced and/or used in his community) contain the most nutrients needed by his body for: energy, growth, and protection. He may learn to know foods especially good for energy, growth, protection. For Energy giving: cereals, potatoes, gur and other sweets, oils, ghee, butter and bananas. For Growth or body building: Milk, pulses, legumes, meat, nuts, eggs, and fish. For Protection: green leafy vegetables, other fresh vegetables, fruits (fresh and dried). But he should begin to learn that most foods include some nutrients for more than one group. Learns which of the common foods grown locally are most valuable to his growth, protection and for energy.	4. Eats foods good for him (milk,etc.) and available in his community. Energy giving foods, protective foods, and foods for growth and body building. Learns to like these foods.
5. that fresh vegetables and fruits are good for him.	5. Eats clean and fresh vegetables and fruits.
6. that too many sweets may not be good for his growth.	6. Refrains from buying and eating too many sweets and other foods of limited nutritive value.
7. the correct eating habits for his age group and community customs.	7. Practices correct and hygienic eating habits: a. regular hours. b. no hurry, no worry while eating. c. proper chewing. d. cheerful disposition e. limited eating between meals f. no overeating.
8. the desirable foods for special occasions (festivals, etc.), fasting practices for his group and the health implications.	8. Helps keep for festivals clean and attractive.
9. a. that kitchen gardens can produce food to make him grow. b. that it is important to help with the work in the kitchen garden.	9. Takes his part in making kitchen garden at home and vegetable garden at school.

0. how to serve food properly.	10. Takes turn in helping to serve food in accordance with family and community customs.
11. the best food for different seasons: hot, cold, etc.	11. Eats food suitable to his needs for different seasons.

V. HEALTH CONDITIONS IN TOWN VILLAGE

Child should know.	Child:
1. a. about his own village or town. b. some of the people who help to keep his village or town safe and healthy.	1. a. Learns the source of (show the teacher) the drinking water. b. Takes pride in his own village or town. c. Can locate the health centre (if there is one). d. Can locate other health facilities in the village: dispensaries, hospitals, private doctors, dentists, etc. e. Can name some of the people in his village who help to keep it clean and safe: Health Inspector, Sweeper, traffic man, etc. f. Can tell something about the work of each: Panchayat and its chairman; chowkidar patel; doctor; vacinnator; health inspector; health visitor, auxiliary nurse-midwife, nurse; village level worker; sweeper.
2. a. that the village water supply should be clean. b. that wells and tanks can be polluted by excreta and filth falling into the well, seeping through the ground, or from water dripping back into the well, by improper bathing, washing of the clothes or the cooking utensils near the well.	2. a. helps keep the drinking water safe and clean. b. bathes and washes clothes away from the well. c. Deposits excreta in sanitary latrine or away from the drinking water, and in safe condition.
3. The student may see section on 'Environmental Sanitation' for suggestion relating to village sanitation.	

VI. GROWTH

Child knows:	Child
1. that healthy children grow.	1. Practices those things which will make him grow.
2. how to give some measurements of his growth (How to tell that he is growing)	2. Takes notice of his growth: a. measuring height (teacher or parent assists, if needed). b. weighs self if scales are at hand.
3. Knows elementary facts about his body and its functions (anatomy and physiology). Learns to know: what the following are, where located in body, and a little about the function of each: Class One: Parts of body) Hands, arms, feet, legs, head, face, eyes, ears, nose, mouth, teeth, hair, body. Class three Parts of body) knee, ankle, nails, skin, gums, toe, gingers, heel, tongue, neck, bones, muscles. Class four Parts of body) chest, chin, red blood, heart, stomach, intestines, jaws, tonsils, adenoids, ear drum, throat, eyeball, shoulder, brain. Class five - In classes 1-4 only a brief introduction may be given to parts of body - In class 5, the study of parts and functions may be more detailed as basis for later understanding. To the list studied in previous classes the following may be added: heart, lungs, liver, large and small intestines, cells. In 5th class the study may include: General understanding of skeleton; general knowledge of how muscles work; functions of skin and perspiration; respiration; circulation; kidneys and excretion; brain and nervous system; the five senses - seeing, hearing, feeling, smelling; touching; about the teeth - six year molar, first or temporary teeth, permanent teeth.	3. Does things which will promote good body functioning.
4. That growth may be hampered by diseases, lack of food, etc.	4. Does things to promote growth.

VII. REST, SLEEP, EXERCISE, POSTURE

Child should know	Child:
1. that rest and sleep are needed to feel good and for growth. Amount of sleep for his age.	1. a. Rests when tired b. Sleeps at proper time. c. Goes to bed when advised by teachers and parents.
2. that comfort during sleep and rest is desirable and usually more healthful.	seeks the best conditions available to him for sleeping..as to: ventilation, place for sleeping, clothing, covering.
3. that exercise helps to make his muscles strong, and helps to make him grow.	3. a. takes part in some games suitable to his age group and community interest. b. takes part in some games or exercises to test his strength and measure his improvement in skill.
4. that good posture is attractive.	4. "stands tall and sits tall" for good posture.
5. that it is desirable to have a balance between work and play.	5. helps with work in accordance with his age, strength, skill, etc.
6. the safe places to play at school, in community, at home.	6. plays at safe places to avoid accidents to self and others.

VIII. CARING FOR ANIMALS

Child should know	Child
1. that some animals can help him	1. Is kind to the animals in the village, those which help him and help other people.
2. that some animals may harm him.	2. Avoids those animals which may harm him.
3. that animals need his protection. The animal may need to kept in a safe place.	3. a. cares for his pets, also for farm animals. b. helps keep animals clean and free from insects.
4. that animals have diseases. Some of those diseases may harm people.	4. Keeps away from sick animals.

IX. SAFETY AND FIRST-AID

Child should know	Child:
1. Elementary rules for safety: a. plays in safe places. b. avoids harmful animals. c. stays at safe distance from fire and river, etc. d. walks on safe side of road, street, lane. e. avoids rash driving (of cycle) f. takes care in handling electrical equipment. g. the safety practices to use of knife, scissors, in running, jumping, throwing.	1. Observes rules of safety in playing and working ... as listed in "things for child to know".
2. Simple first-aid measures:	2. carries out first aid measures according to his knowledge.
a. to notify someone if accident does occur	a. notifies adult or older child in case of accident.
b. How to extinguish fire.	b. if clothing catches fire, he rolls on ground (over and over) to smother the fire. Does not run.
c. How to give attention to cuts, bruises, thorn pricks, insect bites.	c. (1) Cut-keep clean, (dirt or dirty material away from cut. (2) Bruise...(ask doctor). (3) Thorn pricks - keep clean. (4) Insect bites (ask doctor).
d. What things not to do	d. Avoids doing those things which may make accident worse.
e. that blisters are not to be broken.	e. Cases the blister to keep it from getting broken.

X. HEALTH ORGANIZATIONS

Child should know	Child:
1. that people work together to do things for the health of the people in the community.	1. Takes part in activities according to some of the following. Classes 1-2 (in school only) a. clean up of school surroundings. b. health clubs, health squads, Junior Red Cross. Classes 3-4 a. clean-up campaigns. b. clean-up committee. c. scouts, health club, girl guides. d. Junior Red Cross e. Safety-First Squad.

Classes 5

- a. Clean-up committees, b. general sanitation work at school,
- c. gardening and social services in school.
- d. physical education, social organizations.
- e. Balkanji Bari and such other organizations suited to the group.
- f. Watch community work and join after 12 years old as appropriate. Gradually taking part.
- g. festivals, exhibitions and health department work.
- h. cleaning latrines, disinfecting water supply and first-aid.

2. Works with classmates to let others know what health practices are being carried out in his school, writing stories to take home, or telling parents at home.

I. FAMILY LIFE EDUCATION INCLUDING SEX EDUCATION

Child should know	Child
1. that his family is important to him for protection, love, physical necessities, fun, etc. and that every member of his family is important.	1. appreciates his family and takes part in family activities of work play, worship, etc.
2. Proper conduct for his or her own sex at his (her) age.	2. Conducts himself(herself) according to accepted standards and in an acceptable way towards the opposite sex.
3. Proper conduct toward older people and toward younger people.	3. Conducts himself in proper manner toward older and younger people.
4. Knows proper social customs for his age, sex, family and community group.	4. Carries out appropriate social customs.
5. That his teacher will help him to get answers to some of the questions about his own development.	5. When he needs information about his own development, goes to teacher, parents or other qualified source.
6. Understand in a general way how plants and animals reproduce their kind.	

DRAFT SYLLABUS ON HEALTH EDUCATION FOR AGES 11-14

Things for the student to know (Health knowledge)	Things for the student to do (Health habits and practices)
I. Personal Health............. Knows the facts appropriate to his age.	
1. Reviews the learnings for ages 6-11.	1. Continues the health practices suggested for ages 6 to 11.
2. Learns a little of the "why wash hands, cover coughs, control spit".	2. Develops health habits in accordance with knowledge.
3. Knows that good personal hygiene is a mark of some distinction.	3. Keeps himself well--groomed.
4. Knows that eyes need protection against dust, germs, etc.	4. a. Protects eyes from dirty fingers, insects, etc. which might cause diseases. b. Uses whatever test is available to check his vision: for example, the Snellen Chart.
5. Knows that sharp objects, insects, etc. should be kept our of ears, eyes, nose.	5. Protects ears by keeping sharp objects, insects, etc. out of them.
6. Knows diseases which harm eyes, (trachoma, for example) cause prevention, cure.	6. Seeks treatment for eye trouble which may develop.
7. Learns the proper care for his nose, how to breathe, etc.	7. Wears glasses if advised by medical adviser and they are available to him.
8. Learns information about his teeth: temporary teeth, permanent teeth, how to keep teeth clean and attractive.	8. Brushes or cleans teeth after eating according to directions.
9. Knows that teeth are hard but they can be injured.	9. Protects his teeth from harm by not biting objects too hard, etc.
II. ENVIRONMENTAL HYGIENE (Healthful Living)...	
1. Reviews information for ages 6-11	1. Continues the health practices suggested for ages 6 to 11.
2. that light and air are needed in his house.	2. Helps to keep proper light and ventilation for his own house.
3. why houses are built in certain directions (to wind and light)	3. Observes the way different houses are built.
4. Why certain materials are used for building houses.	4. Observes use of building materials in different houses.
5. that his own house and surroundings should be kept clean to be safe, attractive, and beautiful.	5. Helps to keep his own house and
6. that it is his civic duty to help keep a safe and sanitary environment.	6. Performs his civic duty in keeping surrounding safe and sanitary.

III. CONTROL OF COMMUNICABLE DISEASES

1. Reviews learnings for ages 6-11	1. Continues to emphasize practices listed for ages 6-11.
2. Expands his knowledge as to the causes of diseases: malaria, cholera, tuberculosis, smallpox, typhoid, dysenteries, etc.	2. Keeps his immunizations up-to-date insofar as facilities are available).
3. Knows some of the "common ailments", their causes, and preventions.	3. Follows procedures to prevent and control diseases in accordance with knowledge acquired. Takes part in any school or community activities to help prevent or control diseases.

IV. FODD AND NUTRITION

1. Has elementary knowledge about nutrition. (Reviews learnings for ages 6-11)	Continues to emphasize practices listed for ages 6-11.
2. Learns which foods in his community help to: build strong body, make good teeth and bones, give energy, give energy, keep skin, eyes, gums, etc., in good condition.	2. Eats those foods needed to build a strong body and keep it in good condition..if they are available to him.
3. Knows that he needs extra amount of food during the fast growing period.	3. Eats a good supply of wholesome foods before eating too many sweets or other less nutritious foods.
4. Understands the meaning of balanced diet.	4. Selects foods to make a balanced diet (if given any choice).
Knows that foods are classified as: fats, carbohydrates, proteins and that his body needs some of each class. Has some knowledge about these.	Uses some of the plans available to him to calculate the nutritive value of good consumed: a. wheel of six groups; b. green and yellow vegetables; c. food value chart.
6. Knows the value of a kitchen garden.	5. Helps make and tend a kitchen garden at home or at school.
7. Knows appropriate "manners" in relation to serving and eating food.	6. Helps gather, prepare, store, or sell the vegetables from the kitchen garden. 7. Practices manners appropriate to his age, family, community, groups.

V. HEALTH CONDITIONS IN VILLAGE, TOWN AND COUNTRY

1. Reviews learnings listed for ages 6-11.	1. Continues the practices listed for ages 6-11.
2. Knows that certain sanitary standards must be maintained in order to protect the health of the people. He knows the special ones for his town or village.	Does his part to maintain the standards of cleanliness, protection of the water supply, etc., for his town or village.

VI. GROWTH

1. Reviews learnings for ages 6-11
2. Knows that growth is usually irregular during this stage of development.
3. Knows that most girls grow faster than boys at this age.
4. Knows that growth is usually rapid during this period of his life.
5. Reviews informationabout body and its functions as given for classes 1 to 5. In addition learns the following: heart, its parts and function; circulatory systems, some of the parts (veins, arteries, capillaries, etc.), and functions; glands; excretory system, parts and importance to body functions; elementary knowledge of nervous system; parts of eye and seeing; parts of tooth - kinds of teeth and their functions; learns elementary facts about needs of young children, and how to care for young children.
6. that medical inspection checkup, etc. is an important procedure in checking on growth and health.

1. Continues the practices listed for ages 6-11.
2. Can give evidences that he is growing.
3. Develops a good attitude toward his own growth even though he may be developing very rapidly or quite slowly.
4. Gives attention to those health habits which may help his growth: proper rest, proper exercises, proper nutrition, cleanliness, immunizations.
5. Does those things which promote growth and help his body function well.
6. When caring for young children uses knowledge learned to do this in best way.
7. Takes advantage of opportunities to have medical check-up to assess growth and health status.

7. Takes advantage of opportunities to have medical check-up to assess growth and health status.

VII. REST, SLEEP, EXERCISE, POSTURE, LEISURE ACTIVITIES

1. Reviews learnings for ages 6-11
2. Knows the amount of sleep needed for his age.
3. Knows good posture and breathing exercises.
4. Learns new games and exercises to strengthen muscles and keep body in good tone.
5. Knows many kinds of leisure activities, games, sports, crafts, music, hobbies.

1. Continues the practices listed for ages 6 to 11.
2. Sleeps the number of hours advised for him, if possible.
3. Demonstrates good posture while sitting and standing.
4. Takes part in appropriate games and exercises.

Shows good sportsmanship in games and sports.

Carries on some worthwhile activity of his own choosing during leisure hours.

VIII. CARING FOR ANIMALS

1. Reviews the learnings for ages 6-11.
2. Knows that animals need protection from fast-moving traffic.
3. Knows which animals may harm him and how.
4. Knows that diseases may be passed to him from animals.
5. Knows what to do in case he is hurt by an animal: for example, snake bite.
6. Know the meaning of prevention of cruelty to animals.

1. Continues the practices listed for ages 6 - 11.
2. Helps keep animals (cow, buffalo, etc.) out of heavily travelled roads.
3. Avoids dangerous animals.
4. Carries out practices which will prevent catching diseases from animals
5. Carries out good first aid measures as needed.
6. Is kind to appropriate animals.

IX. SAFETY, FIRST AID, HOME NURSING

1. Reviews learnings for ages 6-11
2. Learns safety rules needed, for cycle safety, safe swimming, safety with electricity, safety for camping and hiking.
3. Learns what to do in case of accident
4. Learns elementary facts about caring for sick person in thehome.

1. Continues to stress those habits for ages 6-11 as appropriate.
2. Practices the safety rules which he has learned.
3. Acts in emergencies in accordance with prior instructions and teachings.
4. Helps take care of members of family when ill.

X. HEALTH ORGANIZATIONS

1. Reviews learnings for ages 6-11.
2. Knows the work of the village Panchayat with regards to health.
3. Knows the functions of the village health committee.
4. Knows something of the functions of the Government Health Organizations in his village or town (Primary Health Centre, Hospital, etc.)

1. Continues those practices listed for ages 6-11.
2. Cooperates with the village Panchayat.
3. Cooperates with the village health committee.
4. Carries out recommendations of the Government Health Services.
5. Takes appropriate part in the work of voluntary groups.

XI. FAMILY LIFE EDUCATION INCLUDING SEX EDUCATION

1. Reviews learnings for ages 6-11.
2. Knows the elementary facts about how he came into being and how he(she) developed into a boy or a girl of his/her present age.
3. Learns something about the body changes soon to take place (or now taking place) and proper care of the body during this period: (Body function to be expected are: menstruation for girls, seminal emissions for boys and voice changes.
4. Know that the Government has Family Planning Scheme.

1. Continues practices listed for ages 6-11 as appropriate.
2. Shows a mature attitude toward others of his own sex and of the opposite sex.
3. Develops a good mental attitude toward the maturing processes; practices good personal hygiene; conducts himself (herself) in wholesome manner toward members of opposite sex and in accordance with accepted standards for his family and community group.

XII. MENTAL HEALTH

1. Know that good mental health is important.
c. Acquires some elementary knowledge about mental health and what makes a mentally healthy person (so far as is known at present).

1. Takes part in activities which are believed to contribute toward good mental health.

XIII PIONEERS IN HEALTH

1. Learns names of some people who have contributed significantly to the health of the people: in India, from other countries, of the world.

1. Appreciates the contributions of these people to modern life.
2. Follows the advice of these leaders insofar as advised at present.

TENTATIVE DRAFT

DRAFT SYLLABUS FOR HEALTH EDUCATION (AGES 14-17)

THINGS FOR THE STUDENT TO KNOW (HEALTH KNOWLEDGE)	THINGS FOR THE STUDENT TO DO (HEALTH PRACTICES & HABITS)
I. PERSONAL HEALTH (HYgiene)	
1. Reviews learning for ages 6 to 11, and 11 to 14.	1. Continues to practice those health practices listed for age groups 6-11, and 11 to 14 as needed.
2. Knows that personal hygiene is an important factor is being accepted into some groups.	2. Takes responsibility for his own personal hygiene habits and does the things he knows will benefit him and his 'community'.
3. Knows that he may influence younger children to develop good hygiene practices.	3. Helps brothers and sisters to develop good hygiene practices.
4. Learns what diseases can be spread by lack of the proper hygiene practices: lack of handwashing; spitting; improper control of excreta; coughing too near others, etc.	4. Recognizes the signs of health and the signs of disease in himself and others. Carries out good hygiene practices to prevent diseases.
5. Learns that child, youth, adult older person each has certain health needs and personal hygiene requirements.	5. Carries out practices to meet his own health needs and to meet his personal hygiene requirements.
6. Increases his knowledge about the eyes, ears, nose, throat, teeth, etc.: what is needed to keep them healthy? what diseases can attack each?	6. Does those things needed to keep eyes, ears, nose, throat, teeth in good health.
7. Knows where to get treatment if eyes, ears, nose, throat, or teeth need care.	7. Seeks help, when needed, for these special organs.
II. ENVIRONMENTAL HYGIENE	
1. Reviews learnings for ages 6-11 and 11-14	1. Continues to stress those practices listed for age groups 6-11 and 11-14 as applicable.
2. Knows what are good standards of cleanliness and what is the proper use of each of: ditches, nullakhs, rivers, open spaces, recreational grounds, water supply, latrines, refuse pits, with regard to health promotion.	2. Makes survey of the conditions of things listed under no. 2 in the column "things for student to know". Decides (with the help of teacher, parent or other adult leader) what can be done to improve conditions (if needed) of any of the situation, found in the above survey. Takes his part in making any of these changes and takes part in keeping them in good condition.
3. Learns additional information about a good site for the house and what are some conditions which make a health, comfortable house: kitchen, veranda, toilet (latrine), direction of air, direction of light, outlet for water, throwing of garbage, furniture.	3. Helps to keep own home in best condition possible.
4. Learns additional information about what makes a good school environment.	4. Helps to make survey of school environment to see how well it comes up to good standard of cleanliness.

III. CONTROL OF COMMUNICABLE DISEASES

1. Reviews the learnings for ages 6-11 and 11-14.
2. Knows the seasons of the year when certain diseases usually occur and why.
3. Knows the leading causes of deaths in India... 1st, 2nd, 3rd.
4. Increases his knowledge about the diseases, causes, prevention, cure, etc.
5. Knows the place of home nursing in the prevention of disease.
6. Becomes informed about longevity in India as compared to other countries of the world.
7. Has a clear understanding of how germs cause diseases.

1. Gives emphasis to practices listed for ages 6-11, and 11-14 as applicable.
2. Does some research (asks questions of health authorities) to determine why certain diseases occur at certain seasons.
3. Finds out which diseases cause most sickness and deaths in his section of country (village, town, State).
4. Does those things which will help to control leading communicable diseases---insofar as is possible.
5. Assists in taking care of sick persons at home, if needed, and using hygienic methods in order to prevent the spreading of communicable diseases.
6. Practices those things which will promote long and healthy life.
7. Works to prevent diseases caused by germs.

IV. FOOD AND NUTRITION

Reviews the learnings for age groups 6-11 and 11-14.

2. Knows how to plan a diet suitable for himself using local, inexpensive foods.

Knows what constitutes a good diet (balanced diet)

3. Learns to make dietary survey with some degree of skill, especially a survey of his own food intake over a period of days.
4. Knows the chief food values in most of the foods in his community

Knows the value of vitamins, minerals, and other food nutrients.

5. Learns how to prepare food for sick person...especially what foods are most suitable. Follows directions of doctor if one has been in attendance.
6. Studies scientific information about foods in relation to "beliefs of people."
7. Knows about the nutritional deficiencies in India as found through research studies and surveys.
8. Knows about some of the Government and Voluntary schemes to improve nutrition of people: M.P.F., school lunch, farming, rdens, etc.

1. Continues to emphasize those practices listed for ages 6-11, and 11-14 as applicable.
2. Eats foods he knows he needs (insofar as possible).

Chooses a balanced diet

3. Makes several dietary surveys on himself, other members of his family, or others as directed.
4. Useslocal foods in sufficient quantity to bring above diets in balance (if anything was needed to Balance them: vitamin, minerals, protein, etc.

Calculates the food value of the diets surveyed in 3 above.

Serves food to sick person in a very attractive manner.

Keeps dishes and other serving utensils used in serving utensils used in serving sick person separate from those used by others in the family. Washes them separately and thoroughly.

V. HEALTH CONDITIONS IN VILLAGE, TOWN AND COUNTRY

1. Reviews learnings for ages 6-11 and 11-14.
2. Learns more about the health conditions in his own village or town (good, bad, improving, getting worse, etc.)
3. Learns about the health conditions in different industries or kinds of work...and what the owner (employee) does to promote health among the workers: clean surroundings, safe water, sanitary latrines, safe food, good ventilation.
4. Knows about the main health scheme of the Government (Central) and his own State Government and what each scheme is attempting to do for the people.
    a. Primary Health Centre
    b. Malaria Eradication
    ex Smallpox Eradication
    d. Family Planning
    e. Leprosy Control
    f. TB Control
    g. Water supply and sanitation
    h. Nutrition improvement
    i. School Health Education

1. Continues those practices listed for ages 6-11 and 11-14 as needed.
2. Lists specific things (with teacher's guidance) which can be done in his village to improve health conditions. If practical the teacher may ask the workers at the health center to give basic information about conditions in the village or town.
3. Finds out about these in his village.
4. Student does his part to carry out the Government health scheme aimed at improving conditions in his village, town, country. For example, student can help interpret the need for these; to his own family, neighbours, etc.

VI. GROWTH

1. Reviews learnings for ages 6-11 and 11-14.
2. Knows about the characteristics of growth for his own age group: for boys, for girls and for general needs.
3. Learns elementary kn owledge about the development of children and some of their special needs...especially their nutritional needs and how to protect them against the communicable diseases.
4. Reviews the facts about body and its functions suggested for 6-11 and 11-14. The following may be taken up in this age group:
    a. "adolescent growth spurt"
    b. Heredity, as related to body build and characteristics.
    c. Glands and their effect on growth.
    d. Nervous system: its parts and functions.
    e. Hormones
    f. Blood and how it helps fight disease
    g. Lymphatic system and function
    * h. Excretory system: parts and functions.
    i. Reproductive system.

1. Emphasizes the practices listed for age groups 6-11 and 11-14 which are applicable to ages 14-17.
2. Does things to promote best growth.
3. Assists with the care of young children in the home applying the information which he has learned in his health study at school.
4. Does those things which will promote growth and efficiency of body.
5. Gets medical check-up when available to him and as needed.

*5 Knows value of medical checkup-inspection, etc.

VII. REST, SLEEP, EXERCISE, POSTURE, LEISURE TIME ACTIVITIES

1. Reviews learnings for ages 6-11 and 11-14.	1. Continues the practices listed for ages 6-11 and 11-14 as applicable.
2. Knows what games and exercises are suitable for him(her).	2. Takes part in games and activities suitable for him and enjoyed by him (if possible).
3. Knows the value of sleep and rest to himself. Knows the amount of sleep he needs for his age, activity, etc.	3. Gets the amount of sleep needed if possible.
4. Girls know what exercises are suitable during menstruation.	4. Girls practice games and exercises during menstruation in accordance with recommendations and personal guidance.

VIII. CARING FOR ANIMALS

1. Reviews learning for ages 6-11 and 11-14.	1. Continues to emphasize those practices listed for ages 6-11 and 11-14 as needed.
2. Learns more about diseases passed from animals to humans. Knows how to prevent diseases being passed from animals to animals.	2. Does those things which will prevent diseases passing from animals to humans.
3. That animals need kind treatment to give best service to man.	3. Treats animals kindly.

IX. SAFETY, FIRST AID AND HOME NURSING

1. Reviews things listed for ages 6-11 and 11-14.	1. Continues the health practices listed for earlier ages if practical for his age group.
2. Learns accident facts including: accidents due to different causes, deaths in his State from different accidents.	2. Does things to prevent kind of accidents which have been occuring.
3. Learns safety rules. Learns safest ways to do things: travelling (On foot or on cycle), to do his work, build a fire, play games.	3. Obeys the safety rules insofar as possible. Does things the safest ways insofar as is practical.
4. Knows first aid measures for certain injuries.	4. Applies first aid measures in accordance with instruction learned.
5. Learns how to care for patient in the home: a. to carry out doctors orders b. to make the patient comfortable, change his clothing, give bath, change bed, etc. c. to protect patient against other diseases and to isolate him from well people. d. to dispose of body wastes in same manner.	5. Assists with caring for sick persons in the home.
	6. Helps to keep medicine and poison our of reach of small children

X. HEALTH ORGANIZATIONS

1. Reviews learnings for ages 6-11 and 11-14.
2. Learns more details about the work of the: village panchayat, health committee, government health services, private doctors, etc.

Ages 14-17

3. Learns what voluntary health organizations are represented in his community and what each is doing to improve the health of the people.

1. Continues practices listed for ages 6-11 and 11-14 as applicable.
2. Works with organizations (official or voluntary which are working to improve community
3. Serves on committee, if called upon.

XI. FAMILY LIFE EDUCATION INCLUDING SEX EDUCATION

1. Reviews information listed for ages 6-11 and 11-14.
2. Learns some of the responsibilities which must be undertaken by parents: by father, by mother.
3. Learns more about how the child comes into being (reproduction) and develops, and about child's need for: love, food, protection, protection against accidents and diseases.
4. Learns about the Family Planning Scheme of the Central Health Ministry and why this scheme has been undertaken by the Government.
5. Learns some of the legal information regarding marriage, adoption, support of children, etc.
6. Knows the proper personal hygiene practices needed and proper clothing for his age and sex, especially menstrual hygiene for girls.
7. Knows some of the diseases which may affect the reproductive organs.

1. Continues practices listed for ages 11-14 as practical.
2. Appreciates his own parents.
3. Takes his proper place in his own family in accordance with the prevailing customs, helping other members of family to meet their health needs.

Shows respect for other members of the family and members of the opposite sex.

4. Appreciates the work of the Government in trying to improve family life.
6. Practices proper personal hygiene
7. Seeks medical attention according to need.

XII. MENTAL HEALTH

1. Reviews learnings for ages 11-14.
2. Expands his knowledge about good mental hygiene.
3. Learns a little about mental illness and how they may be prevented.
4. Knows what facilities, if any, are available for promotion of good mental health and treatment of mental illness.

1. Continues to emphasize the practices listed for ages 11-14.
2. Practices good mental health measures: those things known to promote good health in general.

Appreciates new discoveries in mental health which are made available through scientific research. Uses this knowledge to promote good mental health.

3. If opportunity is available, works to prevent mental illness.

4. Appreciates any efforts by Government or private agencies to promote mental health and treat illness.

XIII. PIONEERS IN HEALTH

1. List persons (in addition to those listed for age group 11-14 who have had an important part in health development: in India, in other countries.	1. Learns why each person is listed in this important group.

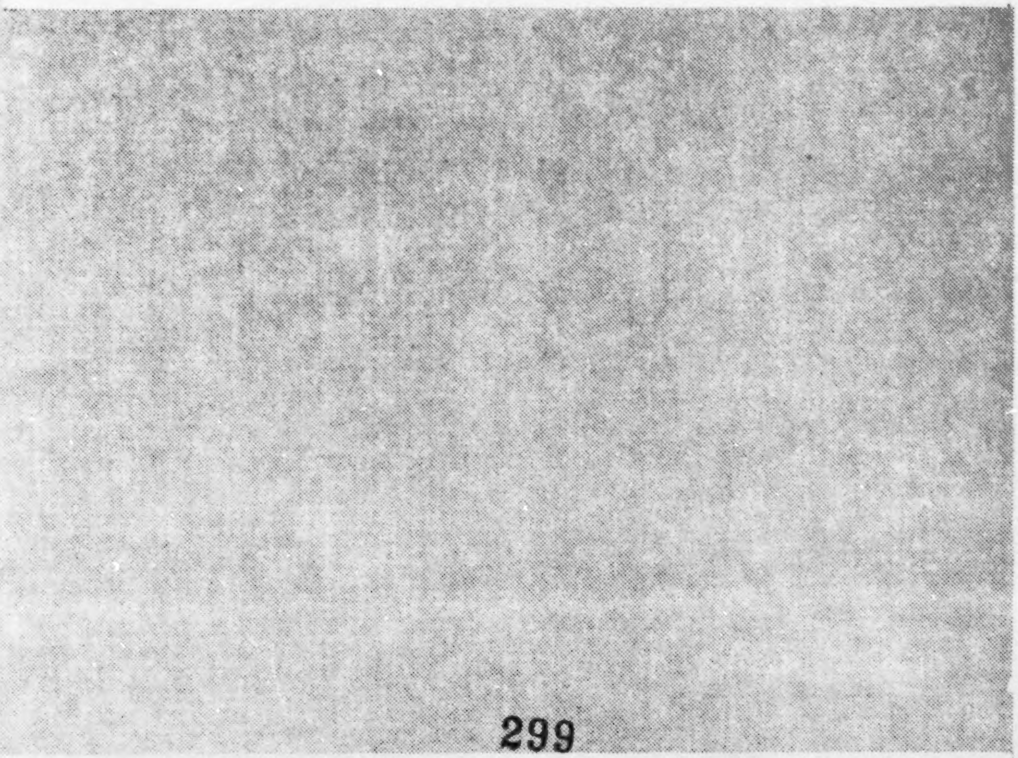
(or this section may be listed under each section, for example, under communicable disease control we may have a statement -- "persons who have done outstanding work in this area".

....

health education of the tropical mother in feeding her young child

PARTMENT
EALTH,
CATION,
ELFARE
MINISTRATION
ureau

1964



HEALTH EDUCATION OF THE TROPICAL MOTHER IN FEEDING HER YOUNG CHILD

Derrick B. Jelliffe
Professor of Paediatrics and Child Health

and

F. John Bennett
Senior Lecturer

Department of Preventive Medicine
Makerere Medical School
Kampala, Uganda

reproduced by the
U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
WELFARE ADMINISTRATION
Children's Bureau
1964
Reprinted with permission by Peace Corps, 1965

HEALTH EDUCATION OF THE TROPICAL MOTHER IN FEEDING HER YOUNG CHILD*

Health education is concerned with means of inducing people to modify their behaviour, with the intention of producing healthier individuals. It is universally paid lip service, but has to date usually achieved only a quasi-scientific status, carried on with little factual knowledge of its actual value. It is too often only effective in the minds of its well meaning exponents.

Malnutrition in early childhood is the dominant problem in the developing tropical regions of the world, and, although poverty is often a vital causative factor, frequently a considerable proportion of the malnutrition seen is potentially avoidable, if already available local food resources were used to better purpose by parents.

It is no exaggeration to say that the most important global target for health education is to persuade tropical mothers to feed their children in the early years of life as well as is possible with already available local foods.

BACKGROUND INFORMATION

Before the planning of any health education, it is imperative to have as much background information as possible. (1) Areas of importance will include:

(1) Local Methods of Child Feeding. The following should be particularly noted: the usual length of lactation; methods of, and reasons for stopping the child breast feeding; when the first foods are introduced, and their nature; whether milk (or its products) are customarily employed; the traditional use of other protein foods (especially legumes, eggs, and fish); the commonness of such new

---

*Seminar on Nutrition and Health Education, CCTA/CIE/FAO/UNESCO/UNICEF/WHO Pointe Noire, Central African Republic deleterious "prestige" practices, as bottle feeding, the use of aerated beverages and over-milled flour; and methods of feeding mothers in pregnancy, the puerperium and lactation.

(2) Local Pattern of Malnutrition. Although in some places, as in parts of S.E. Asia, infantile berberi and avitaminosis A will be common, the main problem all over the tropics is made up of the various syndremes collectively termed "protein-calorie malnutrition of early childhood", including as the two principle severe syndromes Kwashiorkor and nutritional marasmus. (2) It is exclusively with the prevention of these conditions that the present account is concerned.

(3) Local Pattern of Childhood Disease. Although not directly relevant to actual child feeding, the main local diseases acting as malnutritional "conditioning factors" must be known (e.g. hookworm disease, tuberculosis, whooping cough, etc.).

(4) Locally Available Foods. These will include those available from the family cultivation and from the shops, coupled with knowledge as to their prices and probable seasonal variations in availability. Of principal significance will be the protein foods, both from vegetable sources, but particularly those of animal origin, as these are most needed, in shortest supply and most expensive.

(5) Local Culture Pattern. Customs and beliefs in regard to foods for children and women must be known, especially "cultural blocks" that prevent the use of protein foods that are, in fact, available. (3) Other traditional feeding habits are frequently of relevance, including the numbers of meals daily, and the order of feeding within a family.

Similarly, various aspects of general child rearing may have nutritional overtones, as with the sudden geographical separation from the breast, practised in parts of East Africa.

(6) Local Home Economics. The type of kitchen, the cooking methods and utensils, the fuel, the use (or otherwise) of measures of weight, or volume, will all be relevant, and will indicate the range and complexity of the dishes that may be feasible for "village level" infant feeding.

(7) Local Status and Activity of Women. The type of work customarily expected of women will plainly determine whether mothers can care for their toddlers adequately themselves, or have to leave them at home in the care of siblings or elderly women. Also of great importance is the degree of independence women possess in relation to trying "new" methods of child rearing

and especially the spending of household money. The holders of power and authority in the house (e.g. the grandmother or father) may also be of importance.

ECOLOGICAL DIAGNOSIS

The syndromes of protein-calorie malnutrition of early childhood are never exclusively of dietary etiology. An "ecological diagnosis" always requires to be made, and will be found to vary from region to region, implying, therefore, modification of emphasis in health education to suit the particular area. Of the various "burdens" which go to produce a breakdown into protein-calorie malnutrition, the following always require consideration:

(i) Dietary. Poverty (or actual inavailability of protein foods), and/or lack of knowledge, and/or "wrong" knowledge (e.g. food prejudices).

(ii) Infective. Tuberculosis, whooping cough, measles, infective diarrhoea, etc.

(iii) Parasitic. Intestinal helminths (heavy burdens of the roundworm or hookworm).

(iv) Psycho-social. Sudden separation from the breast (especially if "geographical"), family instability (emotional, economic and social) and illegitimacy.

GENERAL PRINCIPLES

Assuming adequate background information and a local ecological diagnosis, certain general principles will require consideration in the planning stage.

Felt-needs. Although again paid much lip-service, "felt needs" are, in fact, not often considered. However, by discovering, what the community, including the mothers want, in relation to any topic, it becomes easier to equate health education to local anxieties and hence to have a better chance of achieving results (Appendix: I).

Range of Topics. Basically, these should be limited to the subjects of real importance - the doubtful, and the locally unnecessary are best excluded.

Methods and Media. While this will vary the channels through which the information will flow (e.g. child welfare clinics, health centres, Community Development activities, schools, hospital wards (Appendix: II) and outpatients), direct simple informal demonstration and discussion with group participation is probably most satisfactory.

Visual aids are quite often more of "health entertainment" value than anything else, and are very likely to be misunderstood by mothers not brought up to follow the conventions inherent in photography and pictorial representation. The radio can be useful but reaches a limited audience. Booklets and pamphlets are for the literate, and are usually in losing competition with expensive, glossy brochures increasingly produced in the vernacular by commercial infant food companies.

Pre-testing of material is important in minimizing this type of misunderstanding, but, as a generalization, there is no doubt that the best media for health education of tropical mothers are the actual foods, cooking pots and other kitchen paraphernalia to which they are thoroughly accustomed and with which they work each day.

This paper is largely concerned with the education of the mother, but the importance of the father in nutrition health education in Africa is always stressed by educated Africans, but is not often heeded in practice by Europeans.

A controlled study of health education in infant nutrition directed at men would be of enormous benefit, but child welfare clinics are usually women-orientated and their work and workers are also associated in the public's minds with women. The motivation of men in regard to children and nutrition has seldom been studied.

What visual aids would be needed, what attitudes and ideas have to be changed to alter the behaviour of men in what they do for their families' nutrition?

Working with clinic-bound parents is relatively easy, and some positive results can be achieved and assessed - but what proportion of the general population do they form? And they are usually the converted anyhow. How does one reach the periphery and maintain some scientific control of the situation? All too often, when one does get to a distant village where a relatively untrained Community Development worker has been functioning, one discovers that the teaching has been singularly worthless, if not harmful. Too often it has degenerated into a stereotyped lesson about the value of beans. To maintain a fresh outlook in workers doing health education, it appears that they must be given "research motivation". They must feel that they are part of an exciting experiment and that by continually searching for the correct methods, approaches, gimmicks, etc., they can be responsible for a great contribution to the welfare of their communities' children.

Evaluation. This should be (but rarely is) considered at an early stage of a programme. Its difficulty is apparent in that the efficiency of health education can best be gauged by:

(a) a change in behaviour by mothers on return home,
(b) the long term alteration in incidence of the particular condition at which prevention is aimed.

Two main tropical groups. Initially, it is useful, again as a generalization, to realise that, although, in fact, there may be a large number of different ethnic, religious, dietary and socio-economic sub-groups in various parts of a country, all with their own problems, there are, for practical purposes, usually two main groups in the present-day tropics as far as the feeding of young children is concerned, although, of course, many families fall between these two extremes.

The first of these, the "privileged", consists of the usually small, well-to-do minority of whatever ethnic group, who have a house with an adequate kitchen with running water, storage space and even occasionally refrigeration facilities, who earn sufficient money to be able to buy usually high-priced protein foods, such as milk, in sufficient amounts for their young children, and who have received enough modern education to be able to understand and carry our practices, based on quantities, dilutions and especially the need for cleanliness. Infant feeding for this group can, with minor modifications, follow standard methods employed in North America and Europe.

The second group, the "underprivileged", who make up the vast majority, either live in villages or scattered homesteads in rural areas, or have flocked to the "septic fringe" slums or, if more fortunate, to low-rent urban housing estates. It is this group who often have little or no modern education, a very small earning capacity, dirty fly-ridden kitchens with few cooking pots, limited fuel and storage facilities and an inadequate water supply. This is the group whose children develop protein-calorie malnutrition and who require priority attention with regard to practical and practicable advice on infant feeding, although even here important sub-divisions will be found, as, for example, those with land and those without, and also those who rapidly accept new ideas and those who are more conservative traditionalists.

PRESENT ACCOUNT

Despite the need for a wide approach to problems of infant feeding in developing areas of the tropics, the present account will deal for the most part with health education concerned with dietary and nutritional means of preventing protein-calorie malnutrition among "under-privileged" children,

BREAST FEEDING

Basic Facts. A working hypothesis with regard to breast feeding for mothers in tropical regions must be based on the following facts:

(1) Nutritional Value. Breast milk is the mainstay of protein nutrition for the first six months of life and is usually all that is needed for this period. It is also the cheapest, cleanest, most easily available protein source. Any other food considered during this early period must be either nutritionally necessary or of real cultural significance, and its alleged advantages weighed against great risks of producing infective diarrhoea (as for example, in relation to the need for organge juice for tropical infants, among whom scurvy is usually absent).

After the first six months, it is never nutritionally adequate alone ("breast starvation"), and the child always requires additional food as well. However, at the same time, lactation prolonged for 1 - 2 years represents a significant partial protein prophylactic against the development of kwashiorkor or nutritional marasmus.

(2) Late Lactation. So called "late lactation" (e.g. up to two years or more) was usual in the Western world until the comparatively recent "milk revolution", with its improved dairying and milk conservation. In late lactation, the breast milk of poorly fed tropical mothers has a low normal protein content, although the yield is low. (4) The nutritional drain on the mother, although difficult to measure, is cumulative with successive pregnancies and protracted lactation, and emphasizes the need for attention being given to her diet.

(3) Breast Feeding "Experts". The world's experts on practical breast feeding are unsophisticated village mothers, among whom it is carried on as naturally as are such similar physiological events as swallowing in other parts of the world. Conscious, planned "technique" with regard to nipple preparation, positioning, regularity, fully emptying the breast, "bringing up wind" and so on is minimal or non-existent. Success is based on unconscious imitation of female relatives observed during her own childhood, and the unruffled, unthinking normality of the whole process, in which doubts or hopes as to success or failure figure not at all.

Unfortunately, in the last decade or so, the failure of breast feeding - so prominent a feature of the Western world, in the present century - has increasingly invaded the tropics, especially in urban areas. (5) Reasons for this, and for the complementary rise of bottle-feeding, are, as anywhere, manifold, but are principally related to complex socio-financial factors associated with urbanization and industrialization. These include the imitation of financio-educational "superiors" of all ethnic groups (and the prestige and modernness that is thereby acquired), the increasing pressure of misdirected advertising of milk foods, the rise of the breasts as a sex symbol and of "modesty" in relation to feeding a baby at the breast, and the tendency of women to go to work in towns, where the baby has to be left at home. As everywhere, the common denominator of lactation-failure under these circumstances is an interference with the psycho-somatic "let-down" reflex resulting from anxiety and lack of certainty. (5, 6).

(4) Dangers of Bottle Feeding. Bottle feeding is increasingly becoming the competitor of breast feeding, especially in tropical towns. The standard paediatric text book arguments concerning the relative merits of human and cow's milk, are entirely secondary and academic as far as infant feeding of the under-privileged are concerned.

Basically, with few exceptions, the majority of tropical mothers have neither the money, nor the education, nor the kitchen facilities, so that bottle feeding means the giving of an over-dilute, contaminated mixture, low in nutrients, and high in bacteria, with the resultant triad of infective diarrhoea, nutritional marasmus and oral moniliasis, often with a fatal outcome.

Content.

The content of health education concerning breast feeding can be extracted from the above basic facts and can be summarised as follows:

(1) Maternal Nutrition. Attempts must be made to persuade mothers to feed themselves better, both on locally available foods, especially legumes, and if available, on such protein supplements as dried skimmed milk, during pregnancy and prolonged lactation.

(2) First six months of life. (i) Breast feed alone, unless definite nutritional need or strong culture pressure.
(ii) Avoid pre-lacteal feeds, unnecessary fruit juice or dangerous bottle feeds.

(3) After six months of age. (i) Breast feed for at least one year, and preferably for two years, as a small, but significant protein supplement.

(ii) Introduce semi-solids, based especially on protein foods available, so that the diet includes all items of the adult diet by the time the child is one year old.

Breast Feeding among the Traditional and the Semi-sophisticated

As noted, the situation is considerably complicated by the fact that in more traditional parts of the tropics breast feeding is carried on easily by the vast majority, whereas, among the semi-sophisticated of urban areas, the situation has altered, and is changing still further, with the incidence of breast feeding falling and with usually unsuccessful attempts at bottle feeding taking over.

Plainly the emphasis to be given to health education concerning breast feeding, in these two social circumstances should be different*:

(i) Traditional Communities. When breast feeding is already an unqualified success, it is unnecessary, presumptuous and dangerous (in that it may sow seeds of doubt) to include advice on such very scientifically doubtful Western fads as are sometimes termed the "technique" of breast feeding. It is quite incorrect to try to touch nipple preparation, regularity of foods, positioning, need for emptying breasts, and "bringing up wind" (a Western emphasized ritual, probably only associated with incorrect bottle feeding).

For this group, then, the first six months or so are usually taken care of by breast feeding alone. Health education is really unnecessary, but with the rapid culture change, characteristic of the world at the moment, it may be considered advisable as a "situational prophylactic" not to mention questions of technique, but rather to underscore in an unobtrusive way the value of breast feeding and the dangers of bottle feeding. This type of advice could flow through various channels, including child welfare centres, antenatal clinics, and parents' clubs, but, most importantly, to school children, who are likely to be affected by the anti-breast feeding trend by the time they themselves become parents. Also in some cultures breast feeding is terminated prematurely due to the beliefs in the milk becoming bad or poisonous. Sometimes, as amongst the Zulu, this is due to ideas of bewitchment (and sometimes only one breast might be considered poisonous), while in some other tribes this is thought to be due to the mother being pregnant again.

---

* The evaluation of the efficiency and extent of breast feeding in a community is not difficult and can be obtained by prevalence surveys (5) and welfare clinic records. Negative evaluation by recording the rise of the bottle and powdered milk (and gastroenteritis occurrence) is even more important, as it heralds the need for action in re-establishing lactation.

In groups stopping lactation prematurely because of some beliefs, it is necessary to elaborate health education to alter this attitude. In the group becoming pregnant (which is a not inconsiderable percentage of all lactating women) some directive is usually asked for, if there is no existing positive idea about the dangers of continuing lactation. Education in this situation should be individual and also related to the particular community circumstances.

(2) Semi-sophisticated Communities. The problem among the under privileged in semi-sophisticated, usually urban, communities is complicated by the fact that the trend away from the breast towards the bottle has usually commenced, while health education is made more difficult by the widespread advertising of infant foods and milks by commercial companies and by the patent success of artificial feeding carried out by privileged mothers of all ethnic groups living in the same region.

Under these circumstances, health education for school children, parents' clubs, and antenatal and child welfare clinics, must stress the positive value of breast feeding and the dangers of bottle feeding. In the latter case, health education would aim at building up the recognition of the association between the bottle and gastroenteritis and marasmus. This is done very rapidly in medical students' minds and can be attempted for mothers presenting in hospital wards, so that the train of events is not repeated with subsequent babies.

The difficulties here are apparent. The increasing pressure of advertising and the successful use of artificial feeding by the well-to-do minority often make under-privileged mothers feel that they are being persuaded towards the second best and are being denied the rights to modern living!

Health education likely to convince is difficult to devise. It is perhaps sometimes possible to appeal to nationalist sentiment, stress being given to breast feeding as a feature of the ancient culture of pre-European times. At the same time, it must be emphasized that in such an "advanced" country as the U.S.A., there is a present-day move to try to return to breast feeding among more educated mothers, as exemplified by "La Leche

League", while in Russia, breast feeding is still the usual method of rearing infants.

Perhaps the greatest need for education in respect of breast feeding lies in the staff of medical and other social agencies. Many come from Western areas and do not realize the need for breast feeding in the tropics, In their own lives they are no example as they are either spinsters or working, bottle-feeding mothers. Much of the unnecessary early introduction of cow's milk and too easy acceptance of the "not enough milk story" has come from expatriate staff, or staff taught by expatriates uneducated in the normal practice of lactation except that of cows. If the only person available to give health education to mothers is a young unmarried woman, then it may be best for her to admit her ignorance and inability to give advice on breast feeding and rather leave the subject alone.

ARTIFICIAL FEEDING

Health education with regard to artificial feeding requires especially careful handling. It should not usually be included in routine series of child welfare demonstrations, but confined to those who need it.

The bacteriological risks of using a feeding bottle among underprivileged, semi-sophisticated mothers are great, and, in many parts of the tropics, it may be considered less dangerous to advise the use of the cup and spoon or metal feeding cup, either temporarily if complementary feeds are needed, or continuously if there is real need, especially if the mother is not available because of death or desertion. With this type of method, which is employed in the "Save the Children Fund Home-Feeding Kit" (Appendix III) in Kampala, there is a greater probability of cleanliness than with the narrow-necked feeding bottle.

If this philosophy is adopted, it is particularly important to avoid using feeding bottles in children's wards of hospitals, as this implies tacit approval and is a form of ill-health education. Thus, in the past two years, the feeding bottle has not been used at all in the Pediatric Division, Mulago Hospital. If artificial feeds have been required, temporarily or continuously, they have been given by cup and spoon, or by feeding cup.

Re-establishment of lactation

(1) Community basis. A reversal of the present trend away from the breast towards artificial feeding can be envisaged if such moulders of fashionable behaviour, as the wives of nationalist leaders and royalty, or film stars and artistes, should be known

to breast-feed their children. Fundamentally, however, such a change in pattern might be most likely to be successful if originating from Europe and North America.

If, as is the case at the moment, the move towards ill-advised, often unnecessary bottle-feeding continues to grow in the tropics, an increasing harvest of death and disease can be expected from infective diarrhoea and nutritional marasmus, and a point of economics that is rarely appreciated, a major source of good quality "animal" protein, will be increasingly lost to a world actively seeking to expand protein production, and even to use such previously unexploited sources as algae, cotton-seed and plant leaves. *

(2) Individual basis. With individual mothers who are giving their babies bottle feeds alone or with occasional breast feeds, for largely unnecessary reasons of the Western psychosomatic pattern (e.g. "not enough milk","baby doesn't like the milk", etc), it has been shown in the Paediatric Division, Mulago Hospital that re-establishment of lactation can be achieved in about 75% (Appendix IV), although which components of the regime employed are the effective ones are not known.

Commercial advertising

In this age of mass persuasion, there are three main species of opinion moulder - political propaganda, commercial advertising and health education.

In the field of nutrition, it is health education which is the amateur anaemic pygmy, compared with the professionally experienced and financially full-blooded giant of commercial advertising.

While with many commodities, an increasing awareness of beneficial modern ways of life may result from advertising in developing countries, the situation with regard to infant foods and medication deserves close scrutiny. Briefly, difficulties have arisen as a result of numerous reputable, but highly competitive, tinned milk firms marketing their costly, high grade wares in tropical countries using the same pattern of advertising as for the educated populations of their affluent homelands. The results are excellent for the privileged minority, but disastrous for the infants of uneducated poor

---

* In Uganda with a total population of about 6.5 million, if all African mothers were to cease breast-feeding abruptly it may be estimated that more than 100 million pints (50 million litres) of cows milk would be needed yearly.

parents, who are increasingly impelled by the glossy glamour of this type of advertising towards ill-advised, impossibly expensive* and frequently fatal attempts at prestige bottle-feeding. There is little doubt that what is most needed is a re-orientation of commercial thinking in relation to infant feeding products to be marketed in developing tropical regions. In fact for the poorer segment of the population what is needed is:

(a) a cheap or subsidized full cream milk** which can best be given via a cup and spoon or a feeding cup for the occasional baby whose mother is dead or unavailable, and

(b) an inexpensive high protein food, which could be dried skimmed milk, or a mixture containing skimmed milk and vegetable protein ingredients, or a variety of other possibilities, which could be used for infants over six months of age which need never be reconstituted as a liquid, but used either in powder form mixed in with the rest of the diet, or made into a gruel.

It is neither a liquid milk nor a "milk substitute" that is needed, but a high protein food, which can be truly supplementary to both breast milk and a locally available toddler diet, and not a replacement for breast milk at an early age. (7)

Liquid milk should be handled as a potentially harmful medicine rather than being thrust at random at an unprepared community (8); in fact, "it can only be used safely if a reliable piped water is available and if cooking equipment is adequate. Even then knowledge is needed if it is to be used to advantage". (8)

TRANSITIONAL DIET***

In tropical Africa, health education for the transitional dietary period must be directed towards the prevention of protein-calorie malnutrition, including especially kwashiorkor:

---

* To correctly bottle feed with full cream milk, a four month old baby in Kampala at present (March 1962) costs about Shs.30 ($10.70.) per month, or about one-third or one-quarter of a labourer's earnings.

** Possibly an acidified milk has various advantages, an important one being that it cannot usually be used in adults' tea or coffee.

*** Semantic difficulties are due to there being no exact equivalent in English to the French word "severage". The term "weaning" (Anglo-Saxon wenian, to accustom) is used with various different meanings, including "accustoming to foods other than milk" and "the stopping of breast feeding". The term "transitional diet" refers here to the diet given the infant between the time when he is exclusively breast-fed and when he has achieved the relative omnivorousness of the adult.

(i) by encouraging the best use of the protein foods, available from the cultivation, from shops or from child welfare centres, together with an adequate intake of carbohydrate calories;

(ii) by attempting to decrease the incidence of such "conditioning" diseases as hookworm, tuberculosis etc.;

(iii) by considering ways of minimising or changing psychosocial situations of nutritional importance (e.g. the sudden "geographic" separation when breast feeding is stopped).

General Nutritional Considerations.

(1) *Mixed Diet in the Second Semester*. One of the main principles in the prevention of kwashiorkor, and similar less clear-out syndromes, is *gradually to introduce the full mixed diet of the particular community, and especially its protein foods during the second six months of life*. Failure to do this is often a defect of traditional feeding practices. Kwashiorkor usually has its main incidence in the second year of life; its prevention under present-day tropical circumstances lies principally in breast feeding alone for the first six months, and in the introduction of the available mixed diet, including animal and vetable proteins, *together* with human milk from the beginning of the second semester onwards.

Length of Lactation.

(2) Length of time suggested in health education will vary with indigenous cultural considerations, but should be for not less than one year, and preferably for two years. Again it must be stressed that up to about six months, breast milk is *the sole food*; after this, it must be considered as a small, but valuable *protein supplement* to the exogenous foods that should make up the bulk of the diet.

The actual mechanics of separation from the breast (*severage*) vary greatly from one culture to another. (9) In many societies this used to be postponed by such family spacing techniques as the postponement of sexual intercourse until the child could walk or had a certain number of teeth.

This is a difficult time in any culture, and vastly more so for the permissively breast-fed tropical child upon whom it can have the impact of a second birth. (10)

Health education should, as always, be based on a knowledge of local practices, and should attempt to dissuade from customs considered, after due reflection, to be harmful, as for example, the use of bitter herbs on the breasts or the sudden sending away of the child to a relative. Beneficial "compensatory" practices found in some parts of the world may well deserve recognition and imitation, as when the mother makes a particular effort to comfort her "displaced" child and to offer him specially prized portions of the diet, especially if these are protein rich.

(3) Local concepts of Nutrition and Infant Foods. Major difficulties with nutrition education among uneducated tropical populations are a lack of realization of the correlation between the health and growth of children and good feeding, and conversely, between an ill-balanced diet and malnutrition. Foods are usually classified culturally, sometimes on a complicated basis, (11) but only rarely, and accidently, is there an overlap with scientific divisions. The main purpose of food in Africa is largely to satisfy hunger and to fill, if possible to repletion. (12)

As far as the young child is concerned, only too often the first foods given, apart from breast milk, consist of portions of the adult dietary, fed to the infant at the one or two daily meals. Points for emphasis often not found in traditional methods are the young child's priority as far as protein foods are concerned, and his need, if practicable, for gradually increasing quantities of soft, easily masticated and digestible foods, possibly specially cooked for him, and given at four meals daily.

(4) Other Local Factors. As noted earlier, many factors in the local ecology and way of life have to be known and nutrition education adapted accordingly. Of paramount importance are the actual local methods of cooking* and the range of possibilities in simple home economics (e.g. costs of foods, pots likely to be available, fuel supplies, storage etc.).

As protein is almost always the critical nutrient, it is valuable for health educators to have a "protein sources list" available for the region. In this can be listed the protein foods, both animal and vegetable, that are found in the area, both cultivated, on sale in shops and available at child welfare centres, together with their seasonal variations in supply and cost, with possibly some simple form of nutritional rating. Ideally, this list should also include protein foods possibly becoming available in the near future, and would be of most value if revised at intervals, perhaps six monthly.

(5) Triple Mixture Infant Protein Foods. In most tropical circumstances, insufficient animal protein will be found for the young, rapidly growing child, and means have to be considered as to how to best use what is, in fact, available.

---

* An example of this among the Baganda of Uganda is the use of the traditional cooking in plantain leaf packets to prepare high protein infant foods, so-called ettu pastes. (Appendix: V)

The concept of "triple mixture infant protein foods" is useful as the most economical and nutritionally advantageous way of combining available animal protein foods, with their rich surplus of essential amino-acids, with mixtures of local vegetable protein foods, deficient themselves in certain amino-acids.*

Triple mixture infant protein foods should be digestible, soft, specially cooked preparations consisting of:

(i) a local staple (and preferably the higher protein staple, if alternatives exist), which may be a cereal, a tuber or a something else (e.g. the plantain);

(ii) a local legume, selected on the basis of protein content, alleged digestibility and likelihood of acceptance by mothers;

(iii) a small quantity of expensive animal protein, such as an egg, fish, dried skimmed milk or fish flour, mixed in, either before or after cooking depending upon the particular food.

As examples of this principle, a gruel of soft rice-toasted Bengal gram (Cicer arietinum) flour with a little added milk, may be quoted as a possibility for parts of India, while in Buganda, plantain and steamed beans (Phaseolus vulgaris), with a raw egg beaten in, are one form of triple mixture infant protein food (ettu paste) (Appendix: V)

Practical Policy

Second six months of life. First Food. Usually the first dish introduced to the infant is and should be, a gruel, a soft paste, or a portion of some local staple food (i.e. maize gruel, soft boiled rice, soft outer part of baked sweet potatoes, portion of steamed plantain). This seems to be a general practice all over the world, including Europe and North America, and in tropical regions, it is equally valid as a first feed, preferably in a gruel form with more miscible animal protein (such as milk or egg) added.

Subsequent foods. Following this, a triple mixture infant protein food should be aimed at, based on locally available and acceptable foods, and the limited culinary possibilities. Small portions should be offered at first once daily, and then gradually increasing up to four times per day.

---

* This principle has, in fact, come about empirically in the traditional dietaries in numerous parts of the world, and, for example, in India is exemplified by the milk, and rice-dhal (legume) basis of the Hindu diet.

Most usually this type of dish requires special preparation, apart from the adult foods, so that the availability of cheap, lidded, small cooking pots at child welfare clinics may be important aids to practical infant feeding.

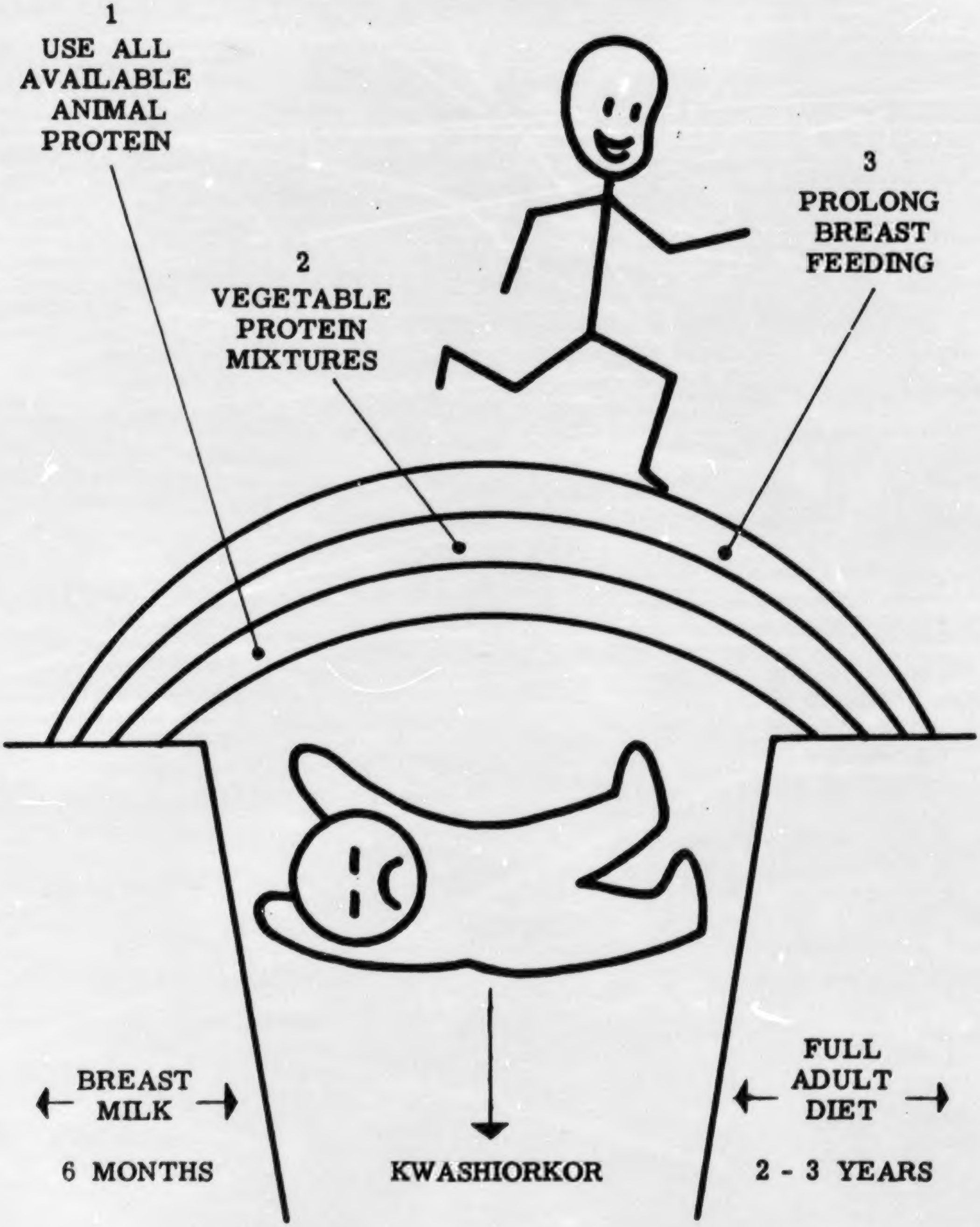
Sometimes this may not be necessary, as with the Baganda who cook their staple food in plantain leaf packets in a large pot, to which a special packet for young children can easily be added. (Appendix: V)

Adult Diet. As first foods for infants, apart from breast milk, in these communities which have neither the facilities nor incentive to prepare separate dishes for their young children, and in all tropical groups later during the second semester of life, the softer, more protein-rich portions of the adult diet should be given.

Health education must, therefore, be guided by a detailed knowledge of the indigenous meal pattern and intra-familial food priorities. In Buganda, for example, it would be based on trying to ensure that the older infant received a share of the enva (groundnut and vegetable "sauce") and bijanjalo (beans, which could be mashed and have the skins removed), mixed with the universal and dominant, but protein-poor, staple matoke (steamed plantain).

"Three-Plank Protein Bridge" (Fig:1) As protein is the critical need in feeding of young children in developing tropical regions, the concept of the "Three Plank Protein Bridge" is useful for teaching purposes (for students and junior medical personnel, but not for mothers). It has the value of simplification and emphasizes the need for the use of all protein sources, represented pictorially by the three "planks" of prolonged breast feeding, and of animal and vegetable protein foods, if the child is to bridge the nutritional divide between the age of six months and 2 - 3 years, without crashing into the chasm of kwashiorkor.

FIGURE 1


1
USE ALL
AVAILABLE
ANIMAL
PROTEIN
2
VEGETABLE
PROTEIN
MIXTURES
3
PROLONG
BREAST
FEEDING
BREAST
MILK
6 MONTHS
KWASHIORKOR
FULL
ADULT
DIET
2 - 3 YEARS

REFERENCES

(1) Jelliffe, D.B. (1962) J. Amer.Women Med. Assoc. In press. Principles of Village Level Infant Feeding in Developing Tropical Regions.

(2) Jelliffe, D.B. (1959) J. Pediat. 52, 227. Protein-calorie Malnutrition in Tropical Pre-school Children.

(3) Jelliffe, D.B. (1957) Pediat. 20, 128. Cultural Blocks & Protein Malnutrition in Early Childhood in Rural West Bengal.

(4) Jelliffe, D.B. (1955) Infant Nutrition in the Subtropics & Tropics, WHO Monograph NO: 29, Geneva.

(5) Jelliffe, D.B. (1962) Amer. J. Clin. Nutr. 10, 19. Culture, Social Change & Infant Feeding.

(6) Jelliffe, D.B. (1956) Courrier. 6, 191. Breast Feeding in Technically Developing Regions.

(7) Verhoestraete, L.J. (1956) Amer. J. Publ. Hlth. 46, 19. International Aspects of Maternal & Child Health.

(8) Oomen, H.A.P.C. & Malcolm, S.H. (1958) Nutrition and the Papuan Child : a Study in Human Welfare. South Pacific Commission Technical Paper No : 118, Noumea.

(9) Slome, C. (1960) J. Trop. Pediat. 4, 122. Culture & the Problem of Human Weaning.

(10) Jelliffe, D.B. & Bennett, F.J. (1962) Clin. Obstet. Gynec. In press. World-wide Care of the Mother & Newborn Child.

(11) Jelliffe, D.B. & Bennett, F.J. (1961) Fed. Proc. 20, 185. Cultural & Anthropological Factors in Infant & Maternal Feeding.

(12) Dean, R.F.A. (1962) East Afr. Med. J. Health Education & Protein-calorie Malnutrition. In press.

APPENDIX: III

"Save the Children Fund" Home Feeding Kit*

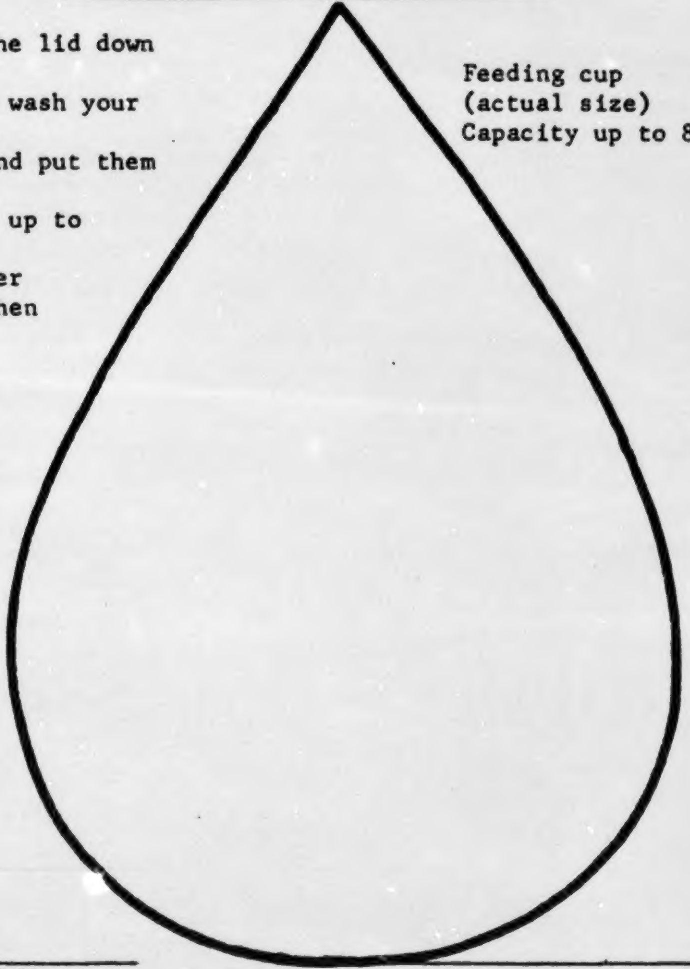
This kit is designed for the feeding at home by foster parents of babies who have to be artificially reared. Because of the difficulty of cleaning a feeding bottle and teat, with the consequent grave danger of infecting the baby with diarrhoea and vomiting, the feed is mixed and given in a special aluminum cup which is very easy to keep clean.

Components of Kit

1. container (aluminum pan with lid)
2. A tin containing soap.
3. A spoon
4. The feeding cup.
5. A tin of milk

Directions for use

1. Open the container and put the lid down beside it.
2. Take out the tin of soap and wash your hands.
3. Take out the cup and spoon and put them on the lid.
4. F water into the container up to the mark and boil it.
5. Pour some of the boiling water over the cup and spoon and then throw it away.
6. Pour boiling water into the cup up to the mark.
7. When the water is cool enough for you to be able to hold the cup comfortably, mix in....... spoonfuls of milk and feed the child.
8. When you have finished wash the cup and spoon in soap and water before putting it away back in the container.



Feeding cup
(actual size)
Capacity up to 8 ozs.

---

* Sheet prepared by Dr. Hebe Welbourn.

APPENDIX: IV

Re-establishment of Lactation

Ward Regime

(1) Mother.
Encouragement and explanation
1 pint milk/day (mainly psychotherapy in Buganda)
Chlorpromazine 100 mgm tabs t.d.s. 10 days
(Nasal synthetic oxytocin, if required - artificial "let-down" reflex)

(2) Infant.
- (i) Frequent, at least approx. 2 - 3 hourly breast feeds. Complementary feeds by tube/spoon/cup
- (ii) Other treatment (i.e. antibiotics, rehydration, etc.)

- - - - - - - - - - - -

Assessment of Results

Wt. increase, clinical improvement of flow of breast milk, test feeding at end of chlorpromazine.

Ultimately discharge on breast alone.

APPENDIX: V

ETTU PASTES IN INFANT FEEDING IN BUGANDA

D. B. Jelliffe

Shortage of protein with an excess of calories in the diet of the young child often leads to malnutrition including kwashiorkor.

It is necessary to try to persuade village mothers:

(1) to continue to breast feed their babies for a year;

(2) to warn mothers of the dangers of bottle feeding;

(3) to introduce animal and vegetable protein foods to their children from the age of 5 to 6 months onwards. *

Staples:

In Buganda (and some other parts of Uganda), the plantain and the sweet potato are the staples, and are cooked by steaming in a plantain leaf packet. *(ettu)*.

Protein Foods:

The principal sources of vegetable proteins are groundnuts and beans *(Phaseolus vulgaris)*. Animal protein foods are expensive and usually short supply, but the following may be available:

(a) in the village - eggs, dried or fresh fish;
(b) in shops - dried skimmed milk.

Ettu Pastes:

The idea with *ettu* paste is for the mother to be able to prepare for her child aged from 6 months or so upwards, a special packet (ettu) which would contain in paste form a mixture of a staple, together with both vegetable and animal protein foods. This would have the advantages of using the traditional method of cooking, of being economical of fuel, as it would be cooked along with the family *matoke*, and of allowing the prepared paste to be kept cleanly wrapped up and used, either cold or re-heated, for the next meal.

---

* There are various other ways of trying to do this, including the recipes given by Dr. Hebe Wellbourn in "Health in the Home". All, including *ettu* pastes, should be known to, and used by, the Community Development worker.

BASIC RECIPES OF ETTU PASTES

	Exact or kitchen measures:	Household measures:
1.	12 ozs. matoke (weighed after peeling). 3 ozs. dry beans. 5 tablespoon water pinch salt.	6 average "bananas" (fingers, pieces). 6 large spoons dry beans (English dessertspoon) or 1 large handful 10 large spoons water pinch salt.
2.	12 ozs. lumonde (weighed after peeling) 3 ozs. dry beans. 5 tablespoons water. pinch salt.	1½ medium sized roots lumonde. 6 large spoons dry beans (English dessertspoon) or 1 large handful dry beans. 10 large spoons water pinch salt.
3.	8 ozs. matoke or lumonde (weighted after peeling). 4 ozs. groundnuts (pounded). 5 tablespoons water pinch salt.	4 average "bananas"(fingers, pieces). 8 large spoons groundnuts (English dessertspoon). 10 large spoons water pinch salt.

to ONE of these basic mixtures ONE of the following foods must be added:

(a)	1¼ ozs. liquid egg.	(a)	1 beaten egg.
(b)	1¼ ozs. D.S.M.	(b)	5 heaped teaspoons D.S.M.
(c)	5/8 ozs. dried fish.	(c)	1 side of a fresh or dried medium sized ngege.

PREPARATION AND COOKING OF ETTU PASTES

The following is the general method for the preparation and cooking for ettu pastes using matoke (plantain) or lumonde (sweet potato), dry beans and egg or D.S.M.

(1) Measure dry beans, wash and put to soak overnight in clean water. This softens the skins and makes removal easy. An alternative method of skinning beans is to put them on to boil for about 45 minutes, put into cold water and they skin easily.

(2) Next day when starting to prepare the child's food, remove outer skin from the beans.

(3) Peel *matoke* or *lumonde*, wash and cut into small pieces.

(4) Wrap prepared *matoke* or *lumonde*, beans and spoons of water inside the banana leaves; tie carefully and put the *ettu* in the cooking pot with the food for the rest of the family. Steam the *ettu* for about 2-2½ hours. (Use smoked banana leaves, *luwombo*, to prevent the leaf breaking or cracking.

(5) Open the *ettu* and mash up the cooked food very well. Measure the D.S.M. and sprinkle over the food and again mix well. The mixture must be really soft.
OR, beat up the egg and add it to the cooked food, again mixing in well to make a soft mush.

Method for *ettu* pastes using *matoke* or *lumonde*, pounded groundnuts and egg *or* D.S.M.

As above substituting groundnuts for the beans. The nuts may be roasted and skinned before pounding when possible.

- - - - - - - - - - - - -

Method for ettu paste using *matoke* or *lumonde*, beans or groundnuts and fish (fresh or dried). The only difference in making this *ettu* paste is that the fish is cooked in the *ettu*.

Soak dried fish in clean water or wash fresh fish. Separate the fish meat from the bones and skin, and use about ½ a medium sized ngege in the *ettu*.

Note. Any one of these mixtures makes enough for a midday and evening feed for 1-2 year old child and preferably should be given warm. After the first meal, the *ettu* should be tied up and can then be given a second time later in the day, either cold or after re-heating.

- - - - - - - - - - - - - - -

ACKNOWLEDGEMENTS

Thanks are due to Miss C. Morton and Miss G. Nansubuga and the Domestic Science class of Gayaza Girls' School for the practical cooking experiments they have carried out over the months, and to Dr. R.F.A. Dean and his staff of the Infant Malnutrition Research Unit, Kampala, for advice and encouragement.

Since 1961 when the Peace Corps was created, more than 80,000 U.S. citizens have served as Volunteers in developing countries, living and working among the people of the Third World as colleagues and co-workers. Today 6000 PCVs are involved in programs designed to help strengthen local capacity to address such fundamental concerns as food production, water supply, energy development, nutrition and health education and reforestation.

Loret Miller Ruppe, Director
Everett Alvarez, Jr. Deputy Director
Richard B. Abell, Director, Office of Programming and Training Coordination

Peace Corps overseas offices:

BELIZE
P.O. Box 487
Belize City

BENIN
BP 971
Cotonou

BOTSWANA
P.O. Box 93
Gaborone

CAMEROON
BP 817
Yaounde

CENTRAL AFRICAN REPUBLIC
BP 1080
Bangui

CHILE
Casilla 27-D
Santiago

COSTA RICA
Apartado Postal
1266
San Jose

DOMINICAN REPUBLIC
Apartado Postal
1414
Santo Domingo

EASTERN CARRIBBEAN
Including: Antigua
Barbados, Grenada,
Montserrat,
St. Kitts-Nevis,
St.Lucia, St.
Vincent, Dominica
"Erin Court"
Bishops Court Hill
P.O. Box 696-C
Bridgetown, Barbados

ECUADOR
Casilla 635-A
Quito

FIJI
P.O. Box 1094
Suva

GABON
BP 2098
Libreville

GAMBIA, The
P.O. Box 582
Banjul

GHANA
P.O. Box 5796
Accra (North)

GUATEMALA
6a Avenida 1-46
Zona 2
Guatemala

HONDURAS
Apartado Postal
C-51
Tegucigalpa

JAMAICA
9 Musgrove Avenue
Kingston 10

KENYA
P.O. Box 30518
Nairobi

LESOTHO
P.O. Box 554
Maseru

LIBERIA
Box 707
Monrovia

MALAWI
Box 208
Lilongwe

MALAYSIA
177 Jalan Raja Muda
Kuala Lumpur

MALI
BP 85
Bamako

MAURITANIA
BP 222
Nouakchott

MICRONESIA
P.O. Box 336
Saipan, Mariana
Islands

MOROCCO
1, Rue Benzerte
Rabat

NEPAL
P.O. Box 613
Kathmandu

NIGER
BP 10537
Niamey

OMAN
P.O. Box 966
Muscat

PAPUA NEW GUINEA
c/o American Embassy
Port Moresby

PARAGUAY
c/o American Embassy
Asuncion

PHILIPPINES
P.O. Box 7013
Manila

RWANDA
c/o American Embassy
Kigali

SENEGAL
BP 254
Dakar

SEYCHELLES
Box 564
Victoria

SIERRA LEONE
Private Mail Bag
Freetown

SOLOMON ISLANDS
P.O. Box 547
Honiara

SWAZILAND
P.O. Box 362
Mbabane

TANZANIA
Box 9123
Dar es Salaam

THAILAND
42 Soi Somprasong 2
Petchburi Road
Bangkok 4

TOGO
BP 3194
Lome

TONGA
BP 147
Nuku'Alofa

TUNISIA
8, Ave. Louis
Braille
Tunis

UPPER VOLTA
BP 537-Samandin
Ouagadougou

WESTERN SAMOA
P.O. Box 880
Apia

YEMEN
P.O. Box 1151
Sana'a

ZAIRE
BP 697
Kinshasa